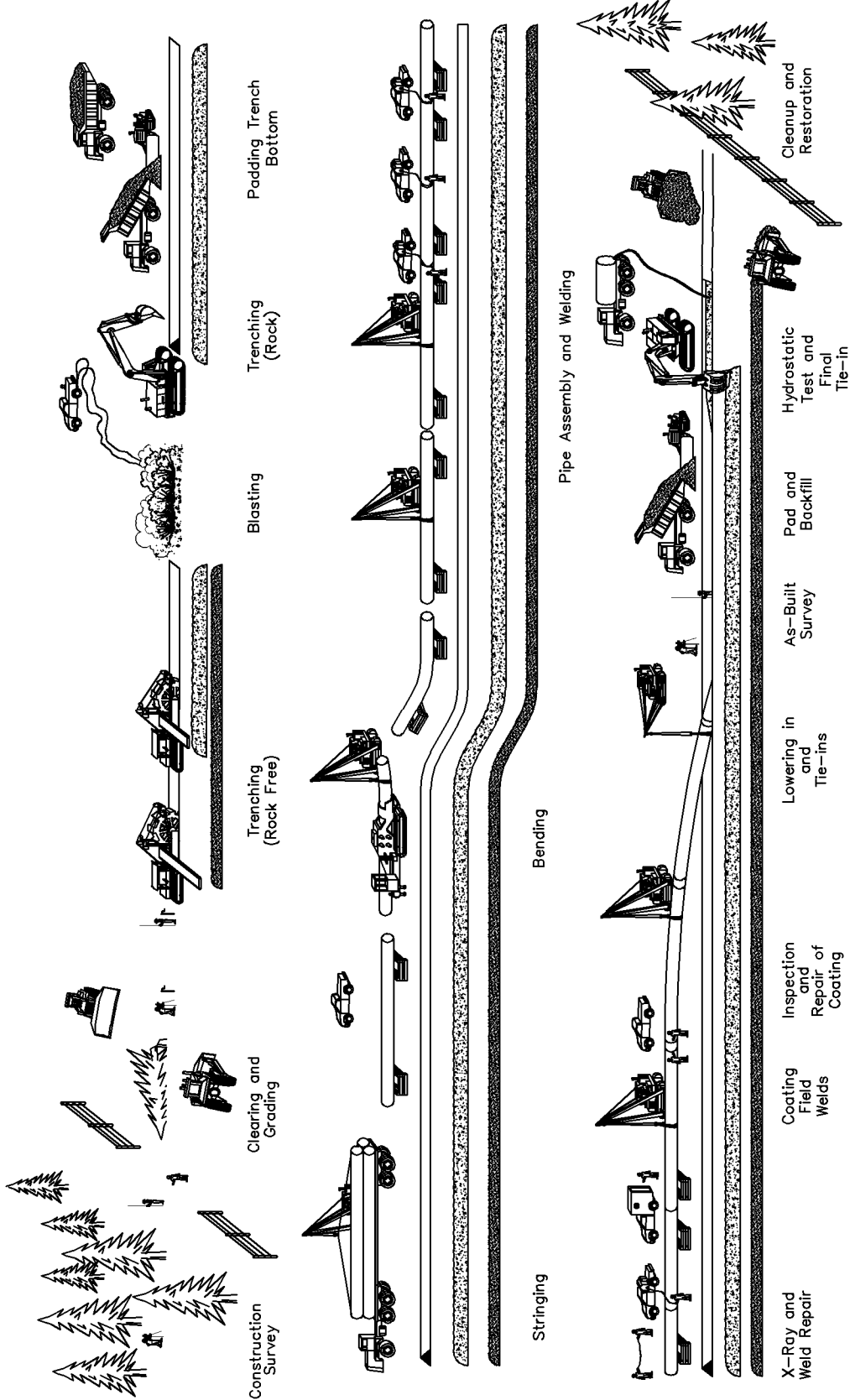



Appendix A: Maps and Construction Typicals

Attachment A: Project Route Maps and Plans Provided under Separate Cover

On August 10, 2009, Ruby filed with FERC a set of revised 7.5-minute USGS topographic maps showing the most recent alignment for the proposed Ruby Pipeline Project. The updated topographic maps reflected the 3 alternatives and 15 minor route variations recommended by FERC in the Draft Environmental Impact Statement.





RUBY PIPELINE LLC

TYPICAL

PIPELINE CONSTRUCTION SEQUENCE

ENG. RECORD		DATE
DRAWN BY:		
DRAWING APPROVAL		
PROJECT APPROVAL		
SURVEY DATE:		
SCALE:		NONE
PROJECT ID:		
FILE NAME:		

DATE

BY

DESCRIPTION

REVISIONS

PROJ. ID

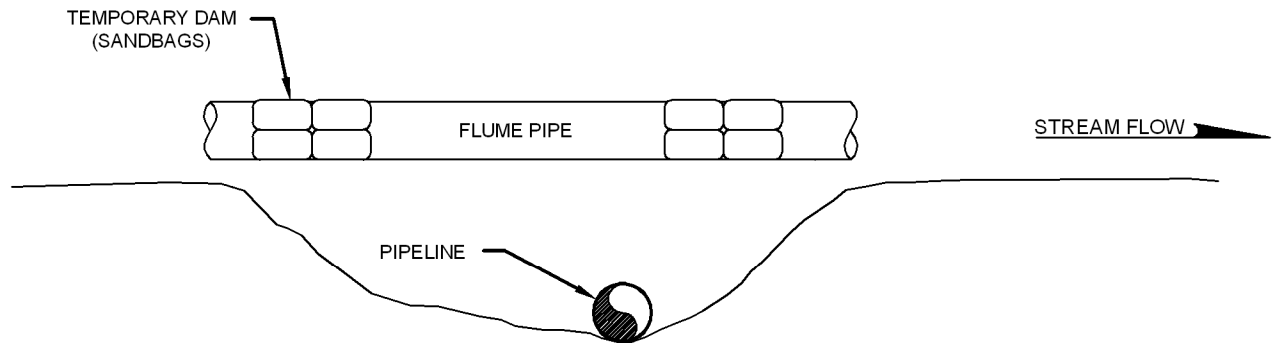
APPR.

DWG. NO.

PLAN-1

REV.


ANRLETTERLANDSCAPE (Rev. 2/01)



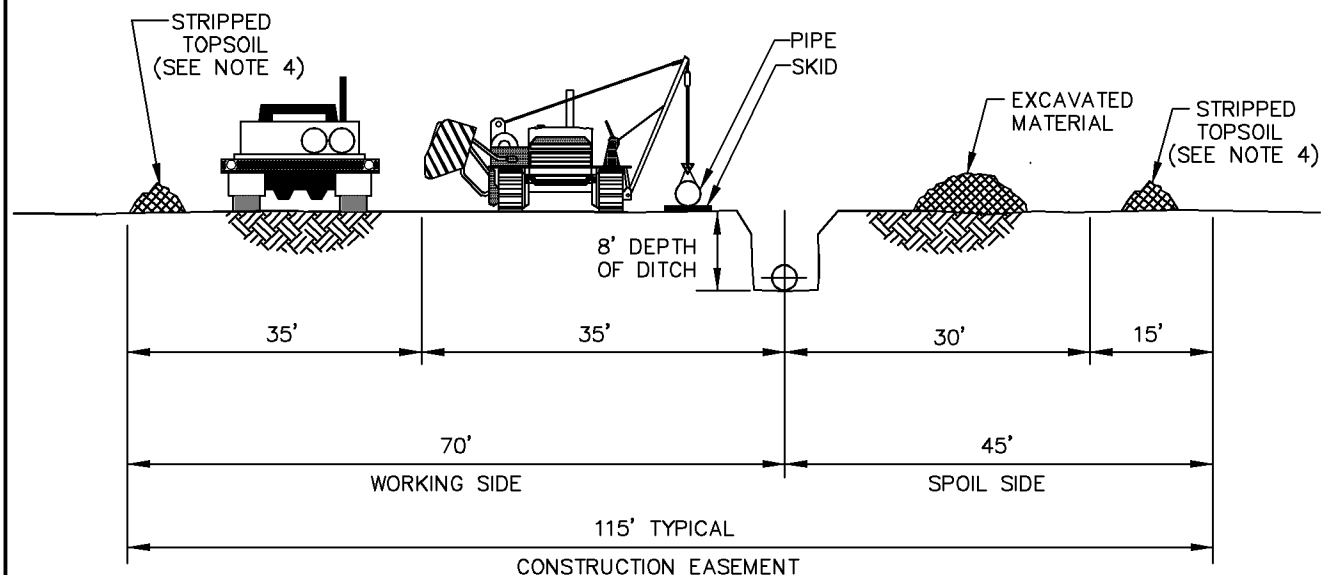
NOTE:

1. THE REQUIRED SET BACK FOR ADDITIONAL WIDTH WORK SPACE IS 50 FEET FROM TOP OF BANK UNLESS APPROVED OTHERWISE BY THE APPROPRIATE AGENCIES.
2. A 10' VEGETATION BUFFER WILL BE MAINTAINED BETWEEN THE BANK AND TWS.
3. THE MINIMUM REQUIRED SETBACK FOR SPOIL PILE IS 10 FEET FROM THE TOP OF BANK.
4. EQUIPMENT BRIDGE SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
5. WEED-FREE STRAW BALES, SAND BAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY AT THE EDGE OF EQUIPMENT BRIDGE.

ENG. RECORD		DATE
DRAWN BY:		
DRAWING APPROVAL		
PROJECT APPROVAL		
SURVEY DATE:		
SCALE: NONE		
PROJECT ID:		
FILE NAME:		

	
<p>TYPICAL DRY WATERBODY CROSSING (METHOD 2A - FLUMED)</p>	
DWG. NO.	PLAN-11

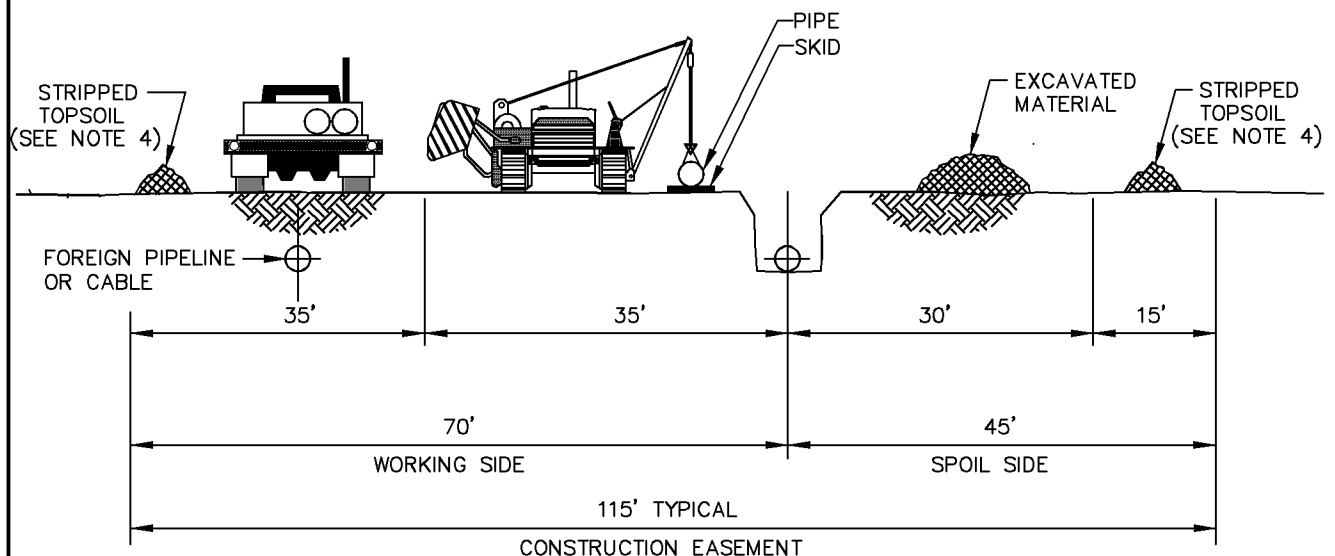
NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY OPEN FLAT COUNTRY

NOTES:

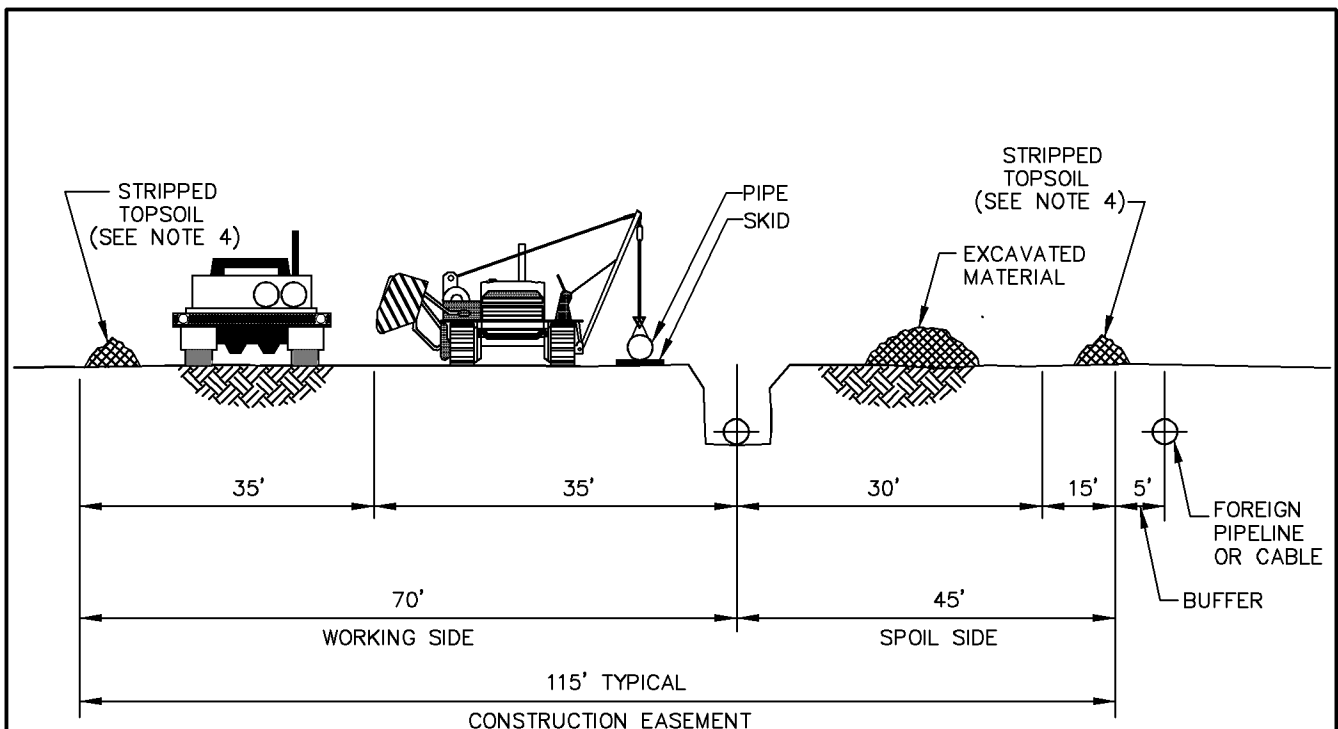
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 115 FEET WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE. AS REQUIRED, ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED AND OTHER SPECIAL CIRCUMSTANCES.
2. TOPSOIL IS TO BE STRIPPED OVER THE DITCH AND SPOIL SIDE EXCEPT AS NOTED BELOW.
3. TOPSOIL IS TO BE STRIPPED ACROSS THE ENTIRE RIGHT-OF-WAY WHEN GRADING IS REQUIRED, IN NOXIOUS WEED AREAS, AT LANDOWNER REQUEST AND/OR AS REQUIRED BY THE ENVIRONMENTAL INSPECTOR.
4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. IN ACCORDANCE WITH RUBY'S UPLAND CONTROL, REVEGETATION AND MAINTENANCE PLAN AND WITH LANDOWNER APPROVAL, A 25 FOOT WIDE AREA ADJACENT TO THE WORKING SIDE OF THE RIGHT-OF-WAY THAT IS TO REMAIN UNDISTURBED WILL BE UTILIZED FOR TEMPORARY SLASH AND TIMBER STORAGE. SNOW MAY ALSO BE PLACED IN THIS AREA.



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY – WORKING SIDE ADJACENT TO PIPELINE OR CABLE (50' C/L TO C/L)

NOTES:

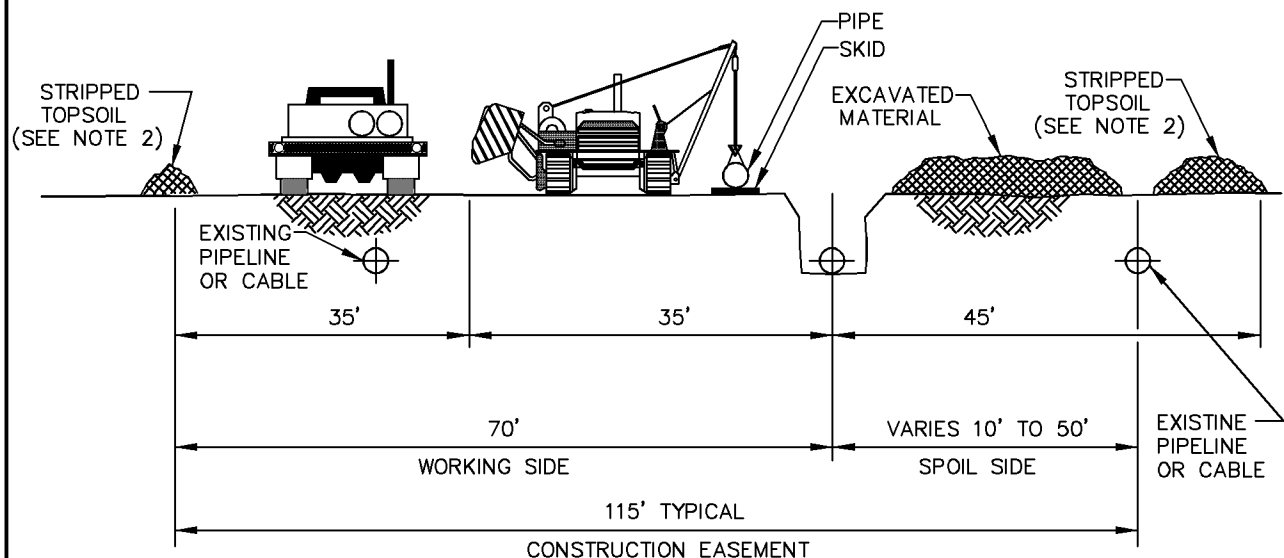
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5. IN ACCORDANCE WITH RUBY'S UPLAND CONTROL, REVEGETATION AND MAINTENANCE PLAN AND WITH LANDOWNER APPROVAL, A 25 FOOT WIDE AREA ADJACENT TO THE WORKING SIDE OF THE RIGHT-OF-WAY THAT IS TO REMAIN UNDISTURBED WILL BE UTILIZED FOR TEMPORARY SLASH AND TIMBER STORAGE. SNOW MAY ALSO BE PLACED IN THIS AREA.



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY - SPOIL SIDE ADJACENT TO PIPELINE OR CABLE (50' C/L TO C/L)

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 115 FEET WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE. AS REQUIRED, ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED AND OTHER SPECIAL CIRCUMSTANCES.
2. TOPSOIL IS TO BE STRIPPED OVER THE DITCH AND SPOIL SIDE EXCEPT AS NOTED BELOW.
3. TOPSOIL IS TO BE STRIPPED ACROSS THE ENTIRE RIGHT-OF-WAY WHEN GRADING IS REQUIRED, IN NOXIOUS WEED AREAS, AT LANDOWNER REQUEST AND/OR AS REQUIRED BY THE ENVIRONMENTAL INSPECTOR.
4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. IN ACCORDANCE WITH RUBY'S UPLAND CONTROL, REVEGETATION AND MAINTENANCE PLAN AND WITH LANDOWNER APPROVAL, A 25 FOOT WIDE AREA ADJACENT TO THE WORKING SIDE OF THE RIGHT-OF-WAY THAT IS TO REMAIN UNDISTURBED WILL BE UTILIZED FOR TEMPORARY SLASH AND TIMBER STORAGE. SNOW MAY ALSO BE PLACED IN THIS AREA.

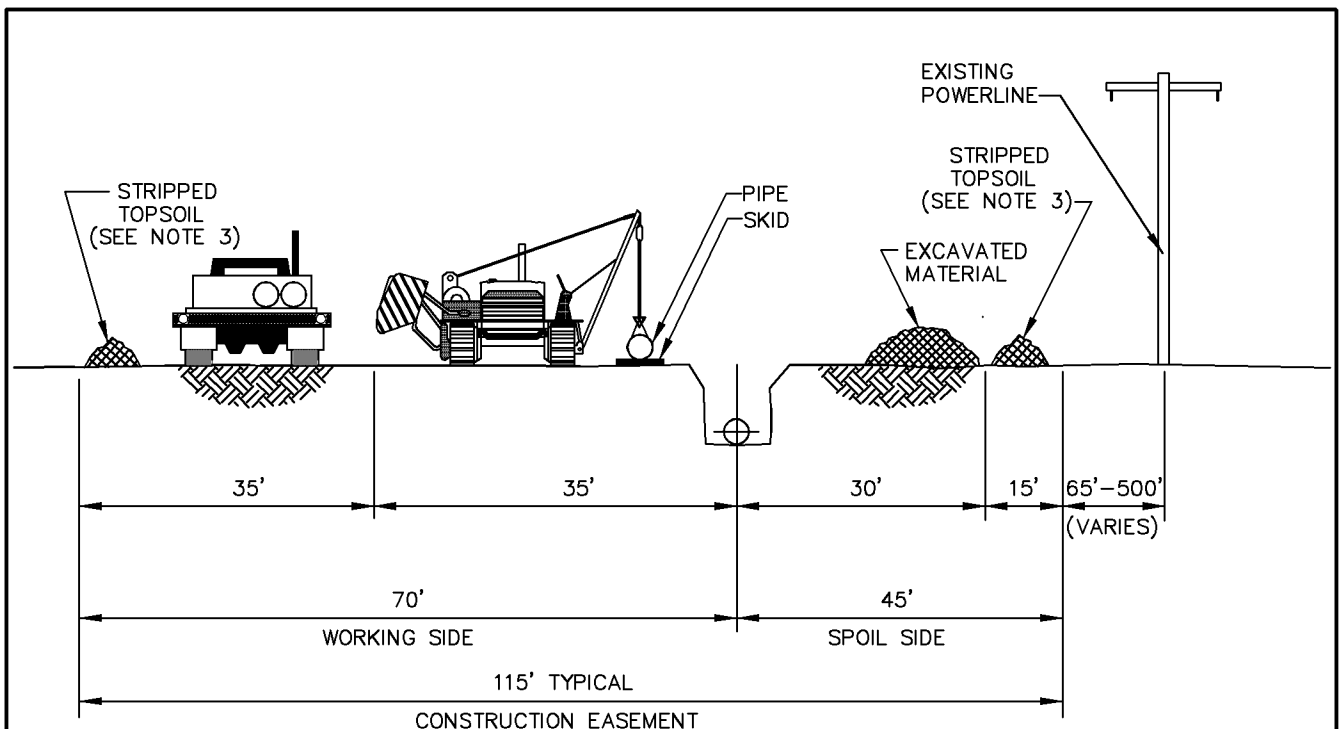


CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY

SPOIL SIDE – ADJACENT TO PIPELINE OR CABLE
WORKING SIDE – OVER EXISTING PIPELINE OR CABLE

NOTES:

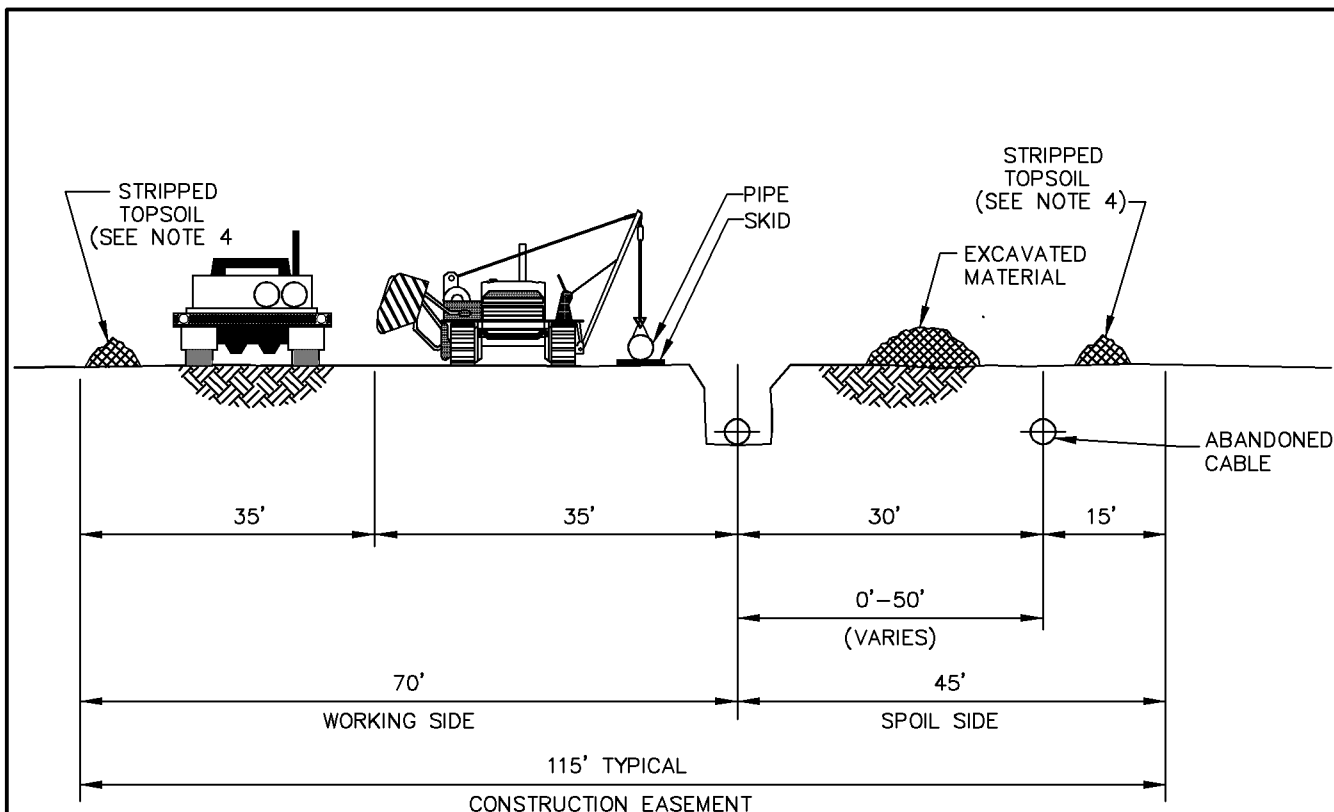
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 115 FEET WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE. AS REQUIRED, ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED AND OTHER SPECIAL CIRCUMSTANCES.
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3. TOPSOIL IS TO BE STRIPPED ACROSS THE ENTIRE RIGHT-OF-WAY WHEN GRADING IS REQUIRED, IN NOXIOUS WEED AREAS, AT LANDOWNER REQUEST AND/OR AS REQUIRED BY THE ENVIRONMENTAL INSPECTOR.
4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. IN ACCORDANCE WITH RUBY'S UPLAND CONTROL, REVEGETATION AND MAINTENANCE PLAN AND WITH LANDOWNER APPROVAL, A 25 FOOT WIDE AREA ADJACENT TO THE WORKING SIDE OF THE RIGHT-OF-WAY THAT IS TO REMAIN UNDISTURBED WILL BE UTILIZED FOR TEMPORARY SLASH AND TIMBER STORAGE. SNOW MAY ALSO BE PLACED IN THIS AREA.
6. WHERE APPLICABLE, THE OFFSET FROM THE CONSTRUCTION RIGHT-OF-WAY TO AN ACTIVE FOREIGN PIPELINE OR CABLE WILL BE 50 FEET. DISTANCES MAY INCREASE OR DECREASE TO ACCOMMODATE SITE SPECIFIC CONSTRUCTION OR ADJACENT PIPELINE/CABLE COMPANY REQUIREMENTS. CONSTRUCTION EASEMENT MAY SHIFT AS NECESSARY.
7. WORKING OVER OR ADJACENT TO EXISTING PIPELINE OR CABLE REQUIRES PIPELINE OR CABLE OPERATORS APPROVAL.



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY – SPOIL SIDE ADJACENT TO POWERLINE (65'-500' C/L TO C/L)

NOTES:

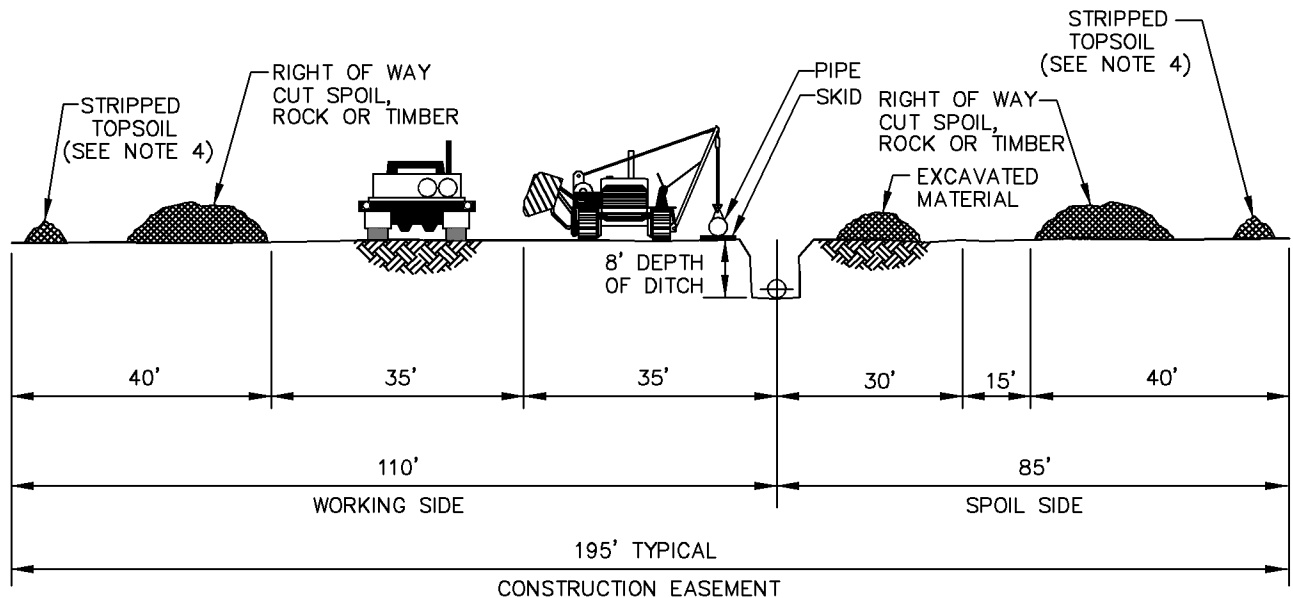
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4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. IN ACCORDANCE WITH RUBY'S UPLAND CONTROL, REVEGETATION AND MAINTENANCE PLAN AND WITH LANDOWNER APPROVAL, A 25 FOOT WIDE AREA ADJACENT TO THE WORKING SIDE OF THE RIGHT-OF-WAY THAT IS TO REMAIN UNDISTURBED WILL BE UTILIZED FOR TEMPORARY SLASH AND TIMBER STORAGE. SNOW MAY ALSO BE PLACED IN THIS AREA.



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY – SPOIL SIDE ADJACENT TO ABANDONED CABLE (0'-50' C/L TO C/L)

NOTES:

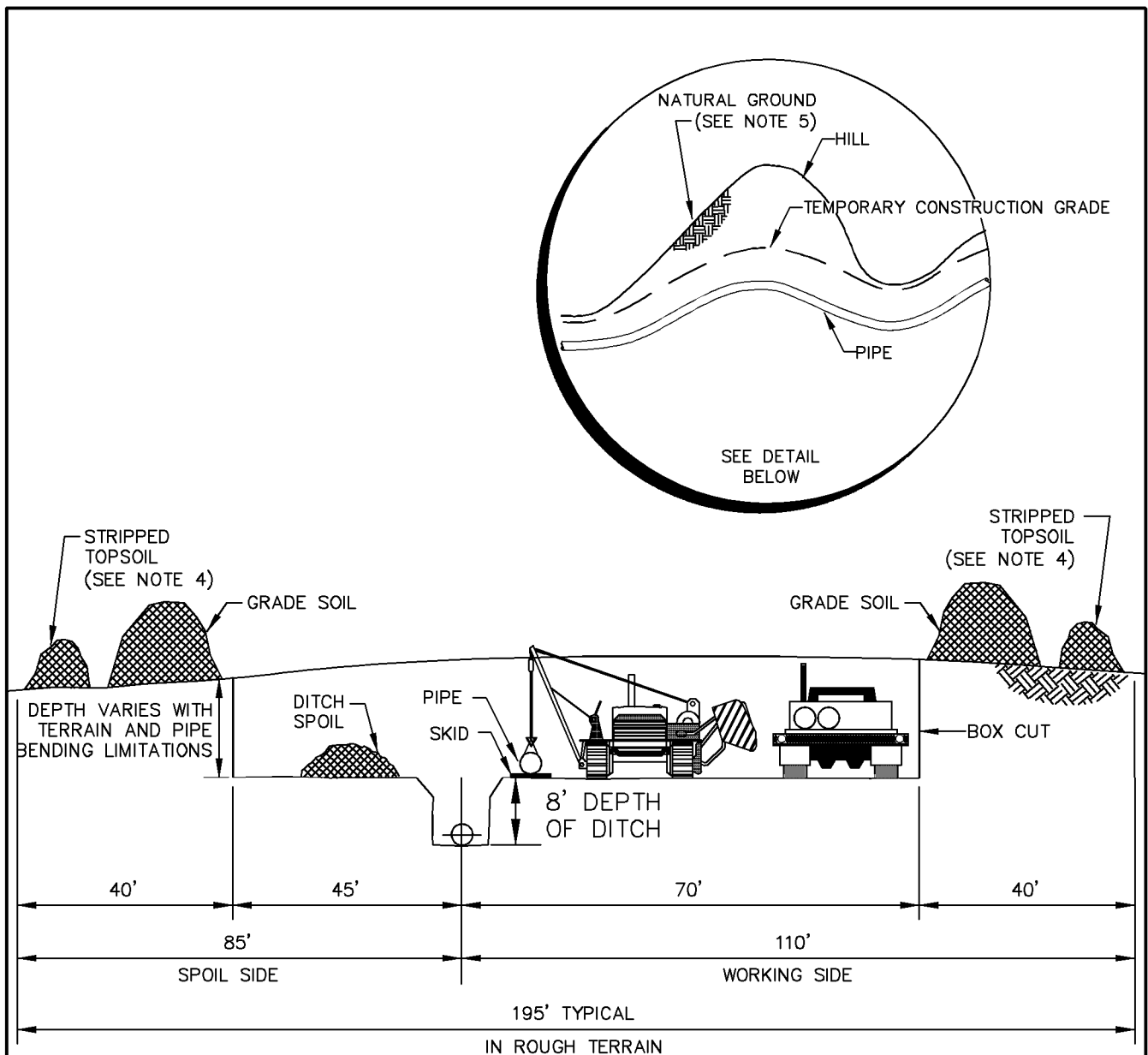
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6. ABANDONED CABLE TO BE REMOVED FROM DITCHLINE.
7. CABLE ACCESS ROAD TO BE ELIMINATED FROM RIGHT-OF-WAY DURING RESTORATION WITH LANDOWNER APPROVAL.



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY 195' CONSTRUCTION WORK SPACE

NOTES:

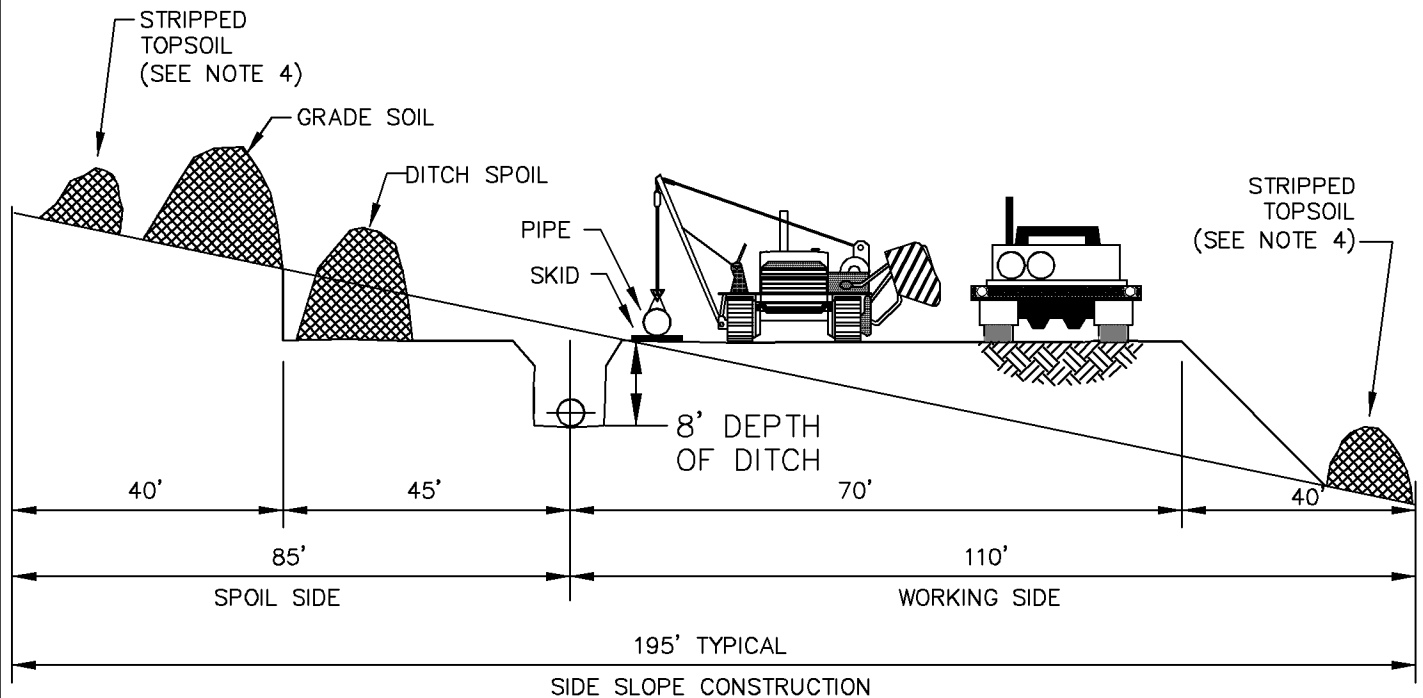
1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 195 FEET WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE. AS REQUIRED, ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED AND OTHER SPECIAL CIRCUMSTANCES.
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CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY STEEP SLOPE/ROUGH CHOPPY TERRAIN

NOTES:

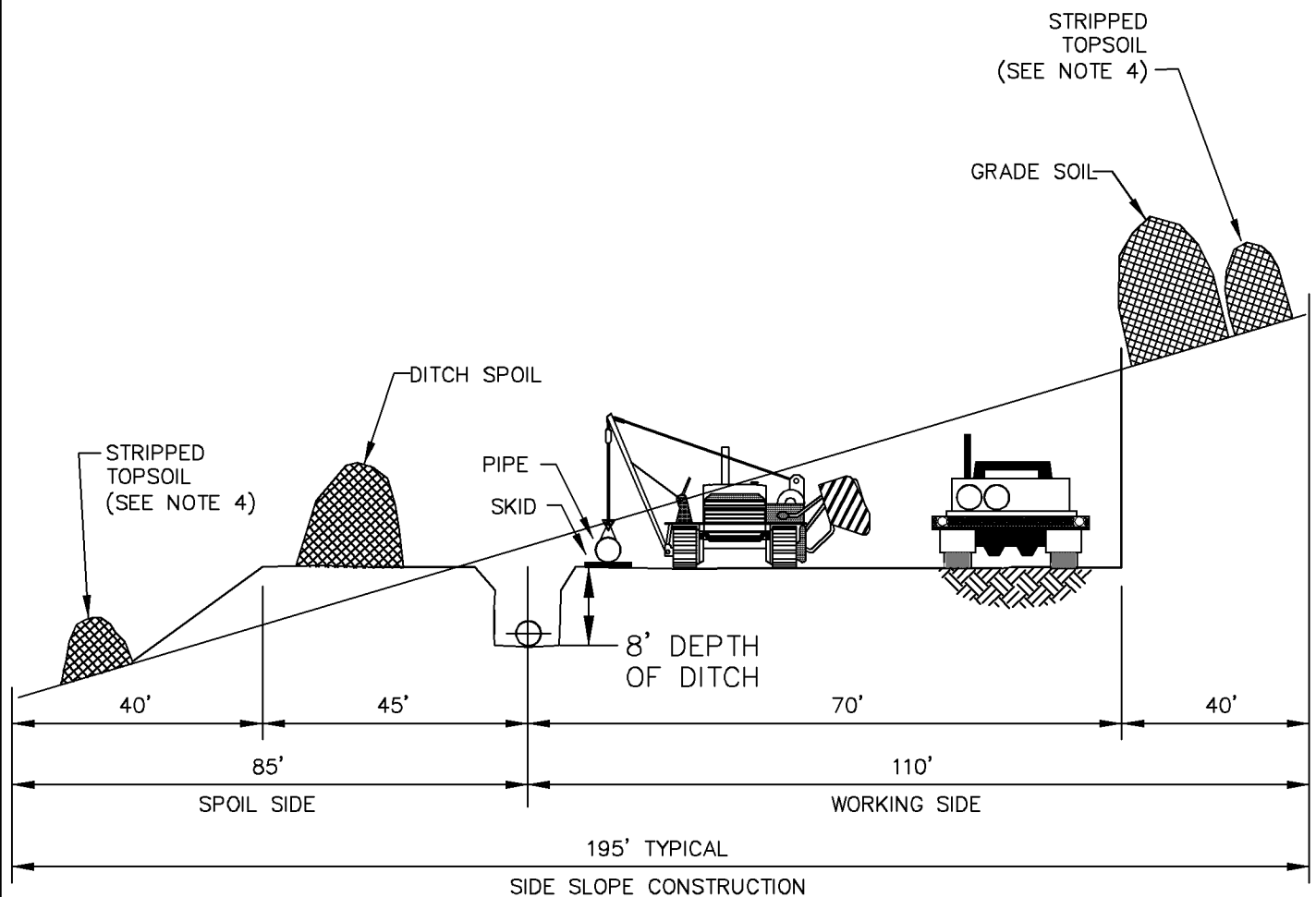
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4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. GRADE TO BE RESTORED AFTER CONSTRUCTION



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY SIDE CUT LEFT

NOTES:

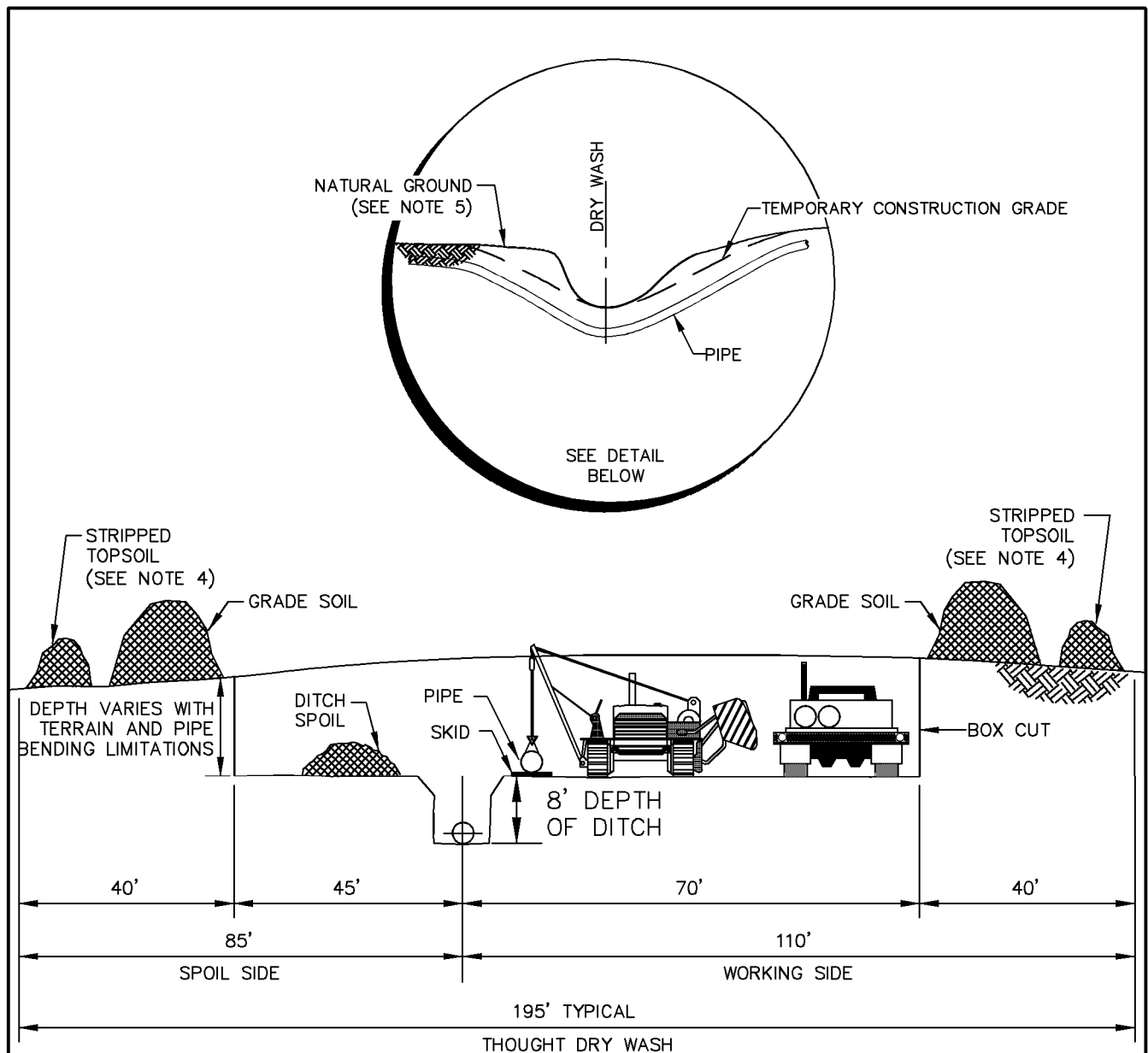
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4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. GRADE TO BE RESTORED AFTER CONSTRUCTION



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY SIDE CUT RIGHT

NOTES:

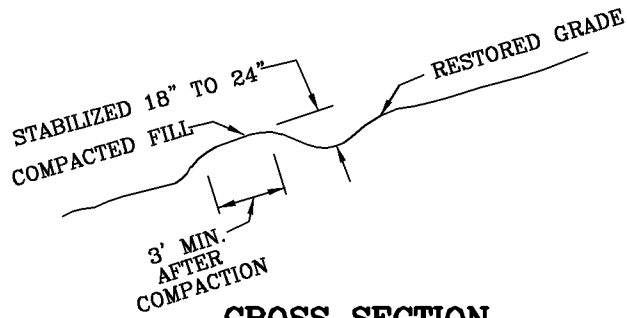
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4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. GRADE TO BE RESTORED AFTER CONSTRUCTION



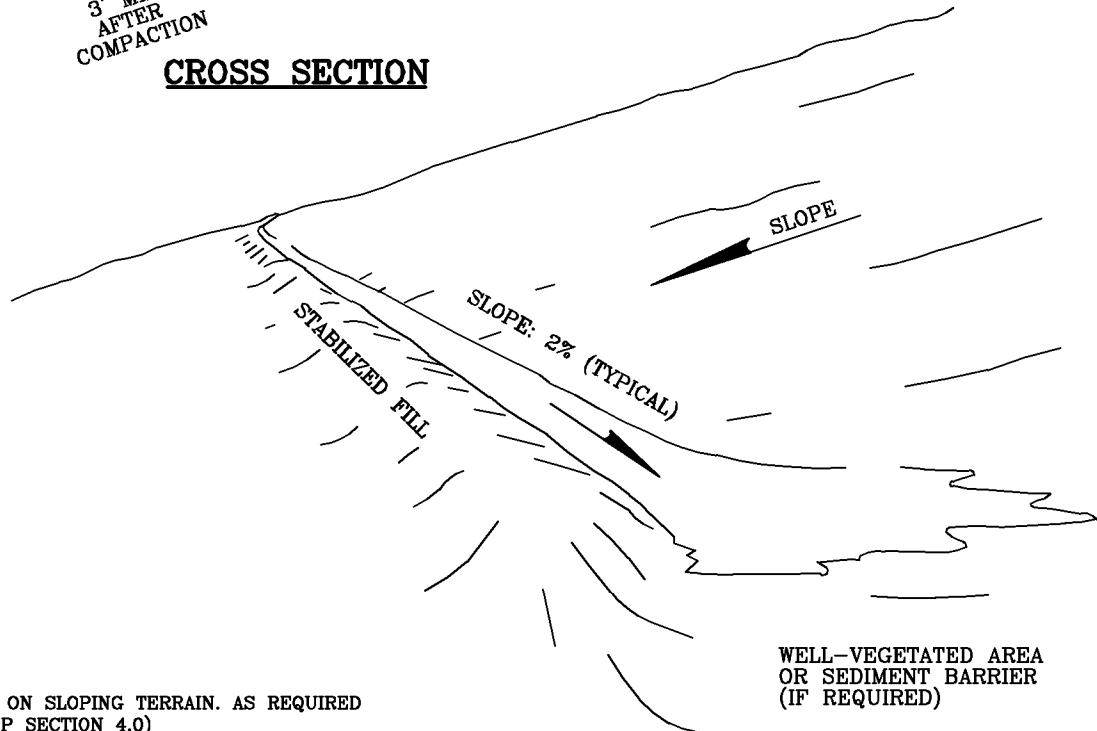
CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY BANKS OF TYPICAL DRY WASH

NOTES:

1. CONSTRUCTION RIGHT-OF-WAY WILL TYPICALLY BE 115 FEET WIDE. THE PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE. AS REQUIRED, ADDITIONAL TEMPORARY WORKSPACE WILL BE NECESSARY AT MAJOR ROAD, RAIL, RIVER CROSSINGS, SIDESLOPES, WHERE FULL RIGHT-OF-WAY TOPSOIL STRIPPING IS CONDUCTED AND OTHER SPECIAL CIRCUMSTANCES.
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4. TOPSOIL IS TO BE SEGREGATED AND STOCKPILED ON THE OUTSIDE EDGE OF THE RIGHT-OF-WAY.
5. BANK OF DRY WASH TO BE RESTORED AFTER CONSTRUCTION
6. PIPE TO BE INSTALLED 5' TO 6' BELOW DRY WASH BOTTOM



CROSS SECTION



NOTES:

1. INSTALL ON SLOPING TERRAIN. AS REQUIRED (SEE ECP SECTION 4.0)

Required Spacing for Permanent Waterbars

Slope Percent	Spacing (Ft.)
5 - 15	300
15 - 30	200
> 30	100

2. MAINTAIN THROUGHOUT CONSTRUCTION AND REPAIR AT THE END OF EACH DAY.
3. OUTLET INTO AREAS STABILIZED BY EXISTING VEGETATION OR INSTALL STAKED STRAW BALES/SILT FENCE.
4. CONTOUR TO ALLOW PASSAGE OF CONSTRUCTION EQUIPMENT
5. MINIMUM 2% LATERAL SLOPE.
6. TEMPORARY WATER BARS/TERRACES MUST BE DESIGNED TO PREVENT WATER FROM ENTERING THE TRENCH. A SOFT/HARD PLUG MAY BE USED TO ALLOW A CONTINUOUS WATER BAR/TERRACE TO CROSS THE TRENCHLINE.

ENG. RECORD	DATE
DRAWN BY:	
DRAWING APPROVAL	
PROJECT APPROVAL	
SURVEY DATE:	
SCALE:	
PROJECT ID:	
FILE NAME:	

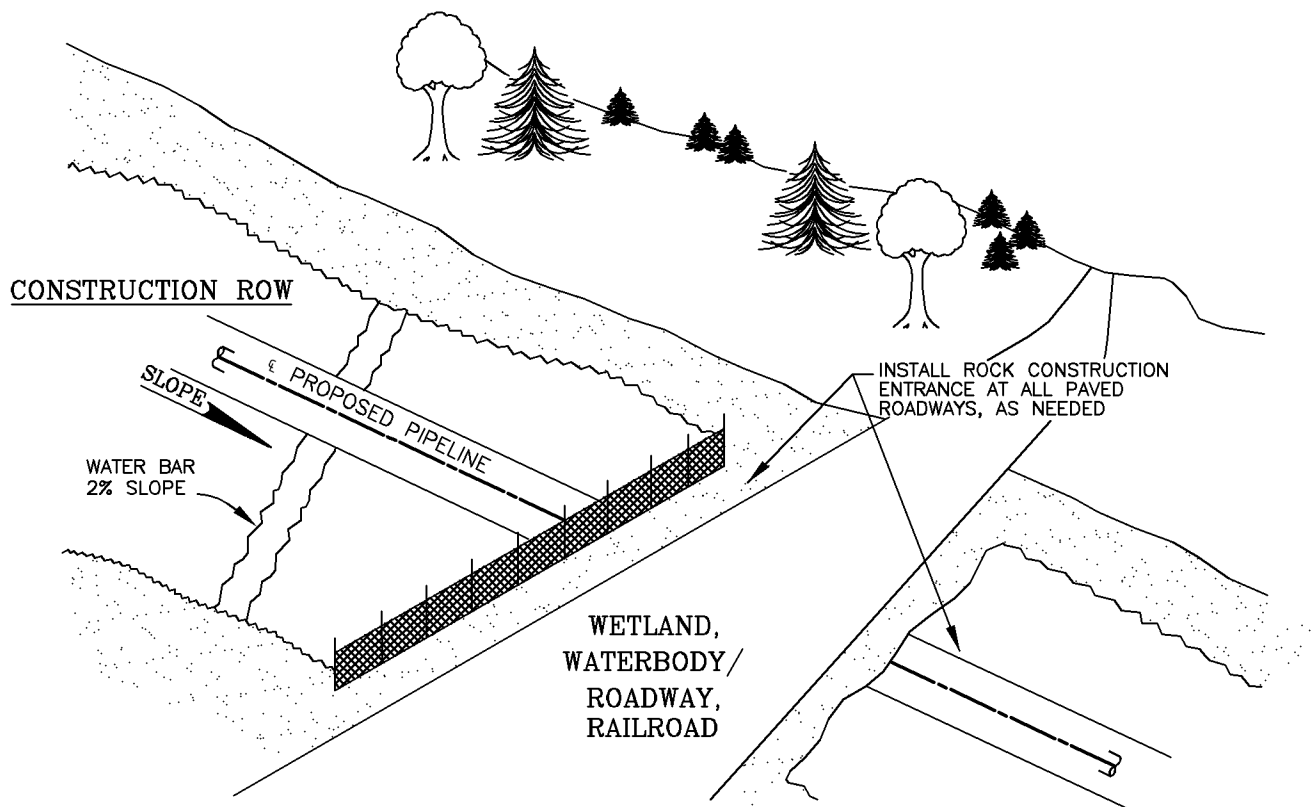
RUBY PIPELINE LLC

**TYPICAL
PERMANENT WATER BARS
OR TERRACES**

DWG.
NO.

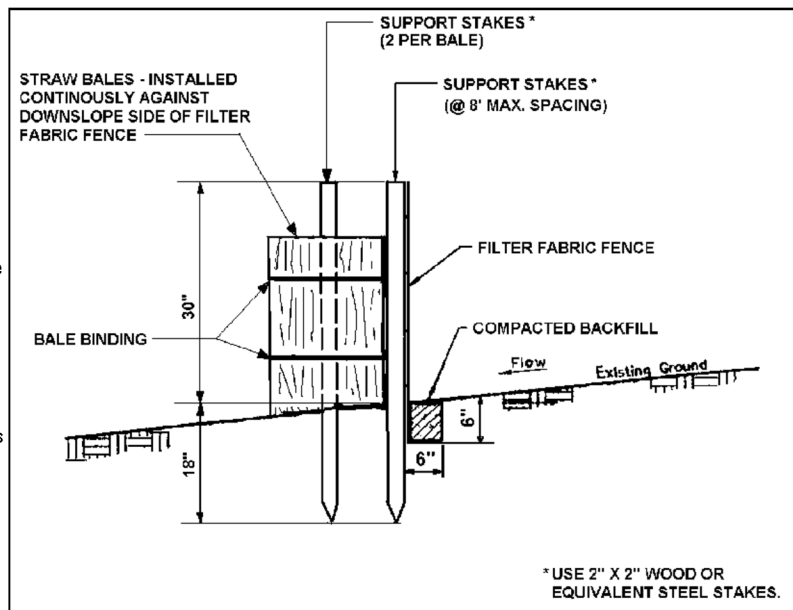
PLAN-3

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



NOTES:

1. Silt fence must be left in place until vegetation has been established.
2. If paved roadway is used for vehicle access, install rock construction entrance (Figure 4-9).
3. Install permanent waterbars upslope of all roadway, railroad, waterbody, and wetland crossings, as required.
4. Install permanent trench breakers as required.



5. Filter fabric fence must be installed at existing level grade.

6. Sediment must be removed where accumulations reach 1/2 the above ground height of the fence.

ENG. RECORD		DATE
DRAWN BY:		
DRAWING APPROVAL		
PROJECT APPROVAL		
SURVEY DATE:		
SCALE:	NONE	
PROJECT ID:		
FILE NAME:		

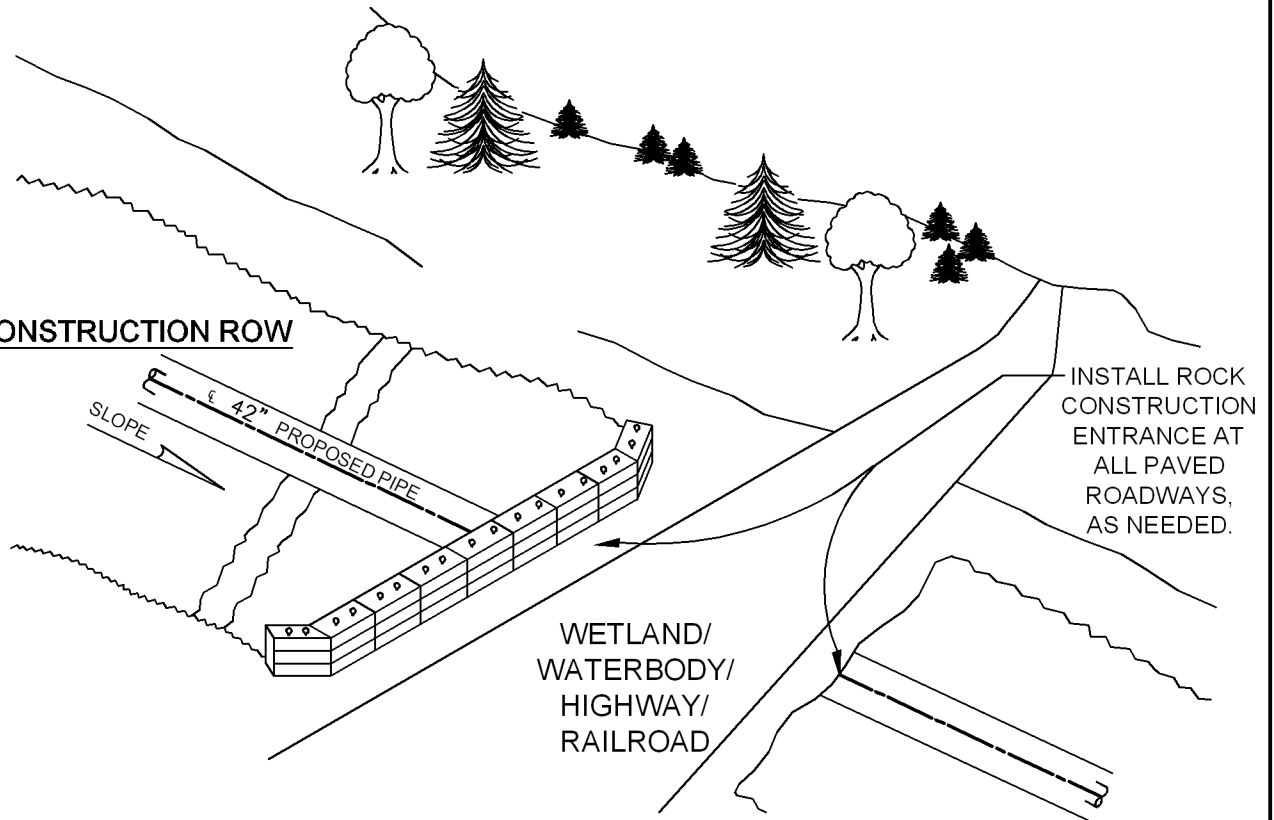
RUBY PIPELINE LLC

TYPICAL SILT FENCE INSTALLATION

DWG. NO. **PLAN-4**

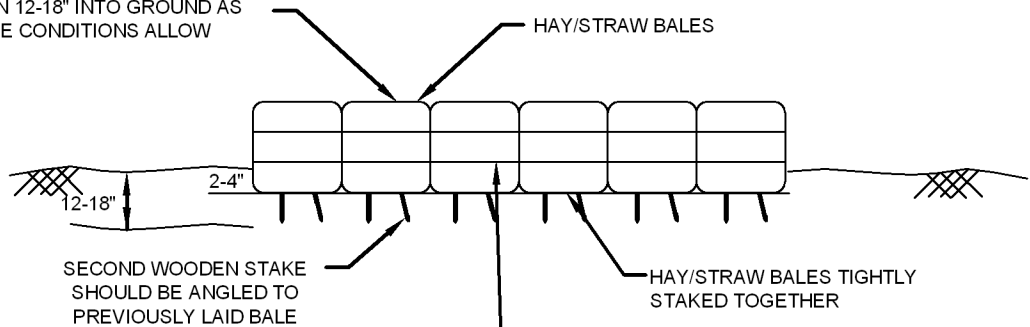
NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

CONSTRUCTION ROW



FRONT VIEW

36" X 2" X 2" MIN. FENCE POSTS OR
APPROVED EQUIVALENT
DRIVEN 12-18" INTO GROUND AS
SITE CONDITIONS ALLOW



NOTE

1. HAY/STRAW BALES TO BE EMBEDDED 2" MIN. INTO GROUND AS SITE CONDITIONS ALLOW.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVEGROUND HEIGHT OF THE BARRIER.
3. HAY/STRAW BALES REMOVED FOR ACCESS PURPOSES DURING THE DAY MUST BE REINSTALLED AFTER THE CONSTRUCTION ACTIVITY HAS PASSED THROUGH OR BY THE END OF THE DAY.

ENG. RECORD	DATE
DRAWN BY:	
DRAWING APPROVAL	
PROJECT APPROVAL	
SURVEY DATE:	
SCALE: NONE	
PROJECT ID:	
FILE NAME:	

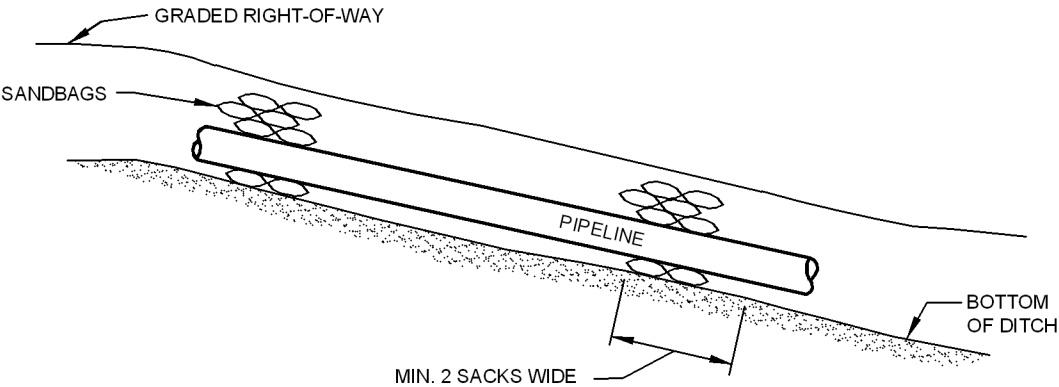
RUBY PIPELINE LLC

TYPICAL HAY/STRAW BALE INSTALLATION

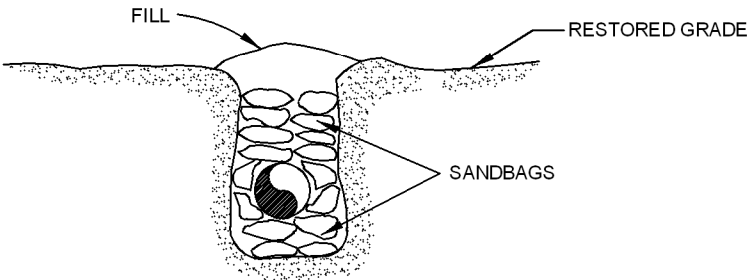
DWG. NO. **PLAN-5**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

SIDE VIEW CROSS SECTION




END VIEW CROSS SECTION



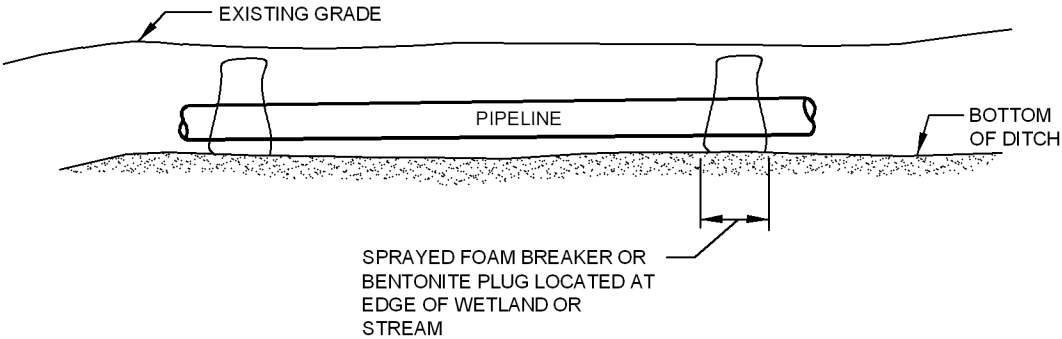
NOTE

1. CONSTRUCT ON SLOPING TERRAIN AND ADJACENT TO ALL WATERBODIES AND WETLANDS, AS REQUIRED (SEE TABLE BELOW).
2. PRIOR TO LOWERING IN PIPE REMOVE ALL DECOMPOSABLE MATERIAL AND LARGE ROCKS.
3. BREAKERS MAY BE COMPOSED OF SANDBAGS OR OTHER APPROVED MATERIAL.
4. MINIMUM 12 INCHES COVER OVER SANDBAGS IN ALL CASES AND MUST BE A MINIMUM OF 2 SACKS WIDE.
5. TOPSOIL SHALL NOT BE USED TO FILL SACKS.

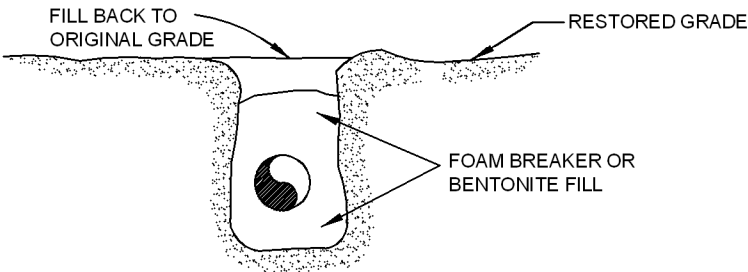
Required Spacing for Trench Plugs	
Slope Percent	FERC's Spacing (Ft.)
5 - 15	300
15 - 30	200
> 30	100

ENG. RECORD		DATE		 TYPICAL TRENCH BREAKERS	
DRAWN BY:					
DRAWING APPROVAL					
PROJECT APPROVAL					
SURVEY DATE:					
SCALE: NONE		PROJECT ID:		DWG. NO. PLAN-6	
FILE NAME:					
NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

SIDE VIEW CROSS SECTION



END VIEW CROSS SECTION



NOTE

1. CONSTRUCT BREAKERS ADJACENT TO ALL WATERBODIES AND WETLANDS, AS REQUIRED
2. PRIOR TO LOWERING IN PIPE REMOVE ALL DECOMPOSABLE MATERIAL AND LARGE ROCKS.

ENG. RECORD					DATE	
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DRAWING APPROVAL						
PROJECT APPROVAL						
SURVEY DATE:						
SCALE: NONE						
PROJECT ID:						
FILE NAME:						

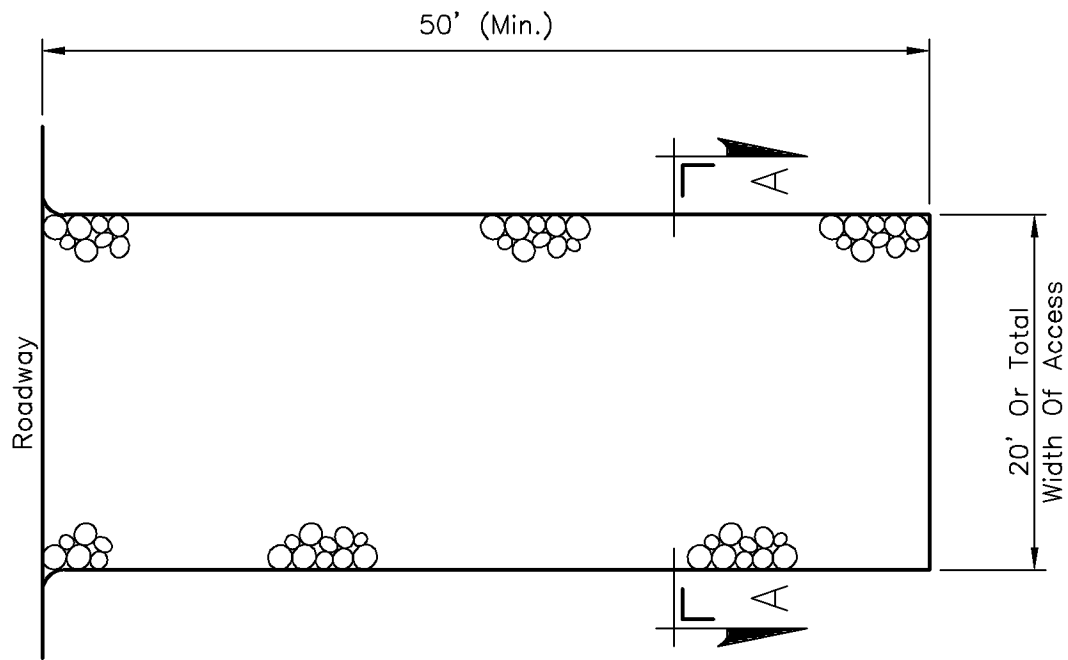
RUBY

PIPELINE LLC

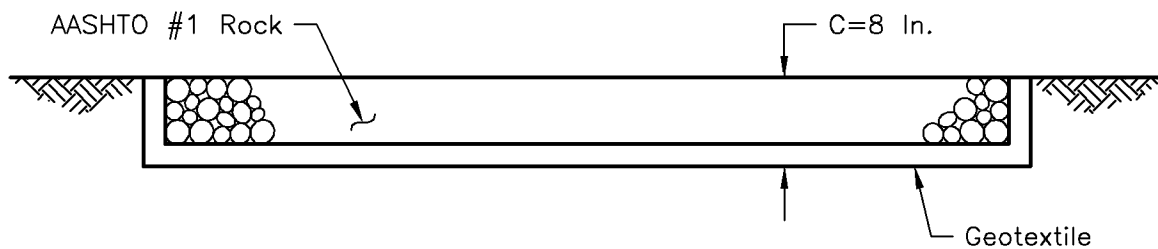
TYPICAL
TRENCH BREAKERS AT WETLANDS

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

DWG. NO. **PLAN-6A**



PLAN VIEW



SECTION A-A

NOTE:

Install at intersection of public, paved roadway, and construction right-of-way. Rock Construction Entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile shall be maintained on site for this purpose. At the end of each construction day, all sediment deposited on paved roadways shall be removed and returned to the construction site. Washing roadway is not permitted. Culverts or flume pipes must be installed under the rock entrance/exit to allow for water drainage, if required due to topographical conditions.

ENG. RECORD		DATE
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PROJECT APPROVAL		
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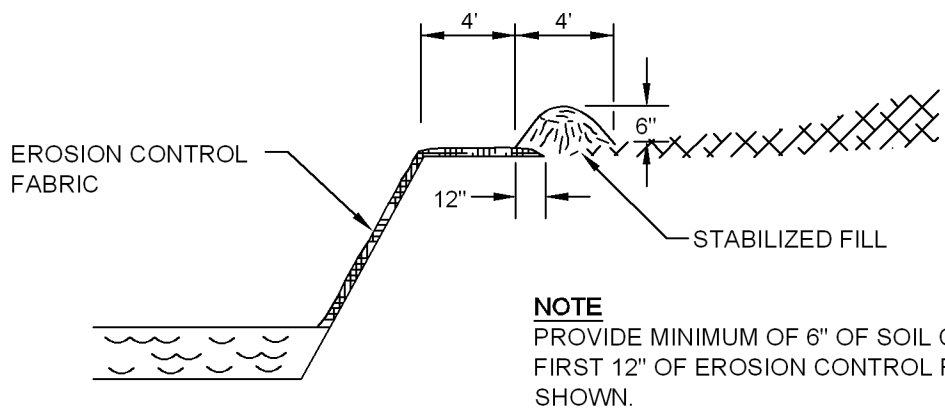
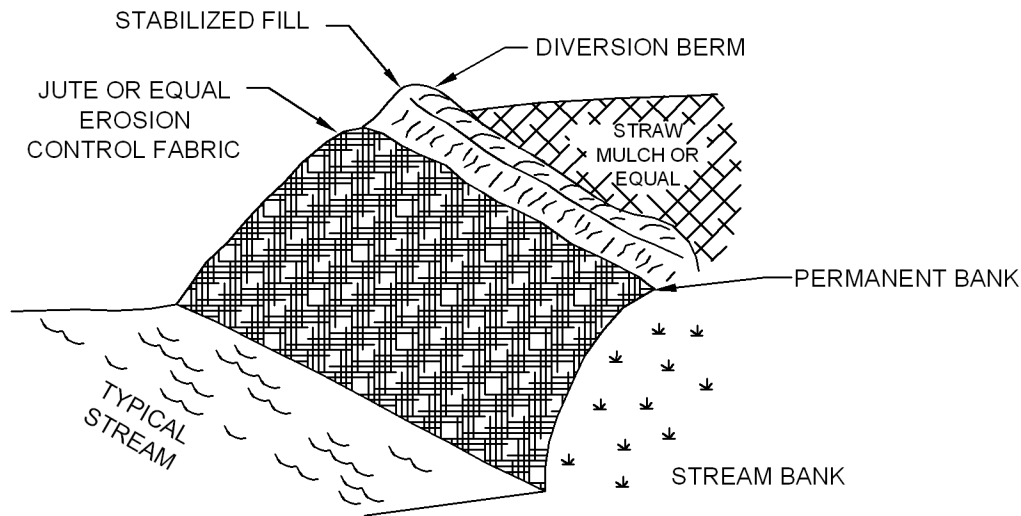
RUBY PIPELINE LLC

TYPICAL ROCK CONSTRUCTION ENTRANCE


DWG. NO. **PLAN-7**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

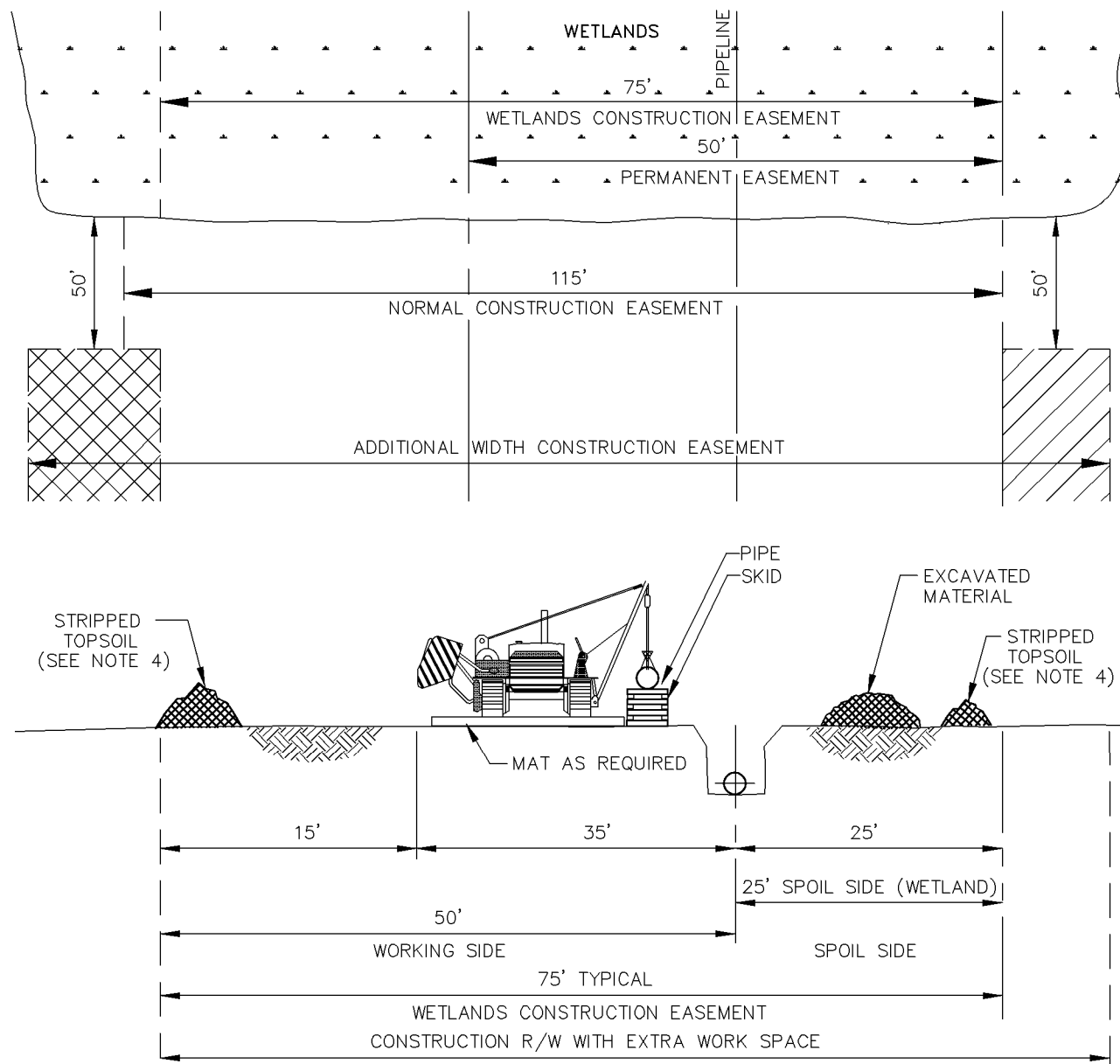
**STAKE TO THE SLOPE WITH WOOD PEGS OR STAPLE
PER MANUFACTURER'S SPECIFICATION**



SLOPE SECTION

ENG. RECORD					DATE		 <p>TYPICAL EROSION CONTROL FABRIC</p>
DRAWN BY:							
DRAWING APPROVAL							
PROJECT APPROVAL							
SURVEY DATE:							
SCALE: NONE							DWG. NO. PLAN-8
PROJECT ID:							
FILE NAME:							

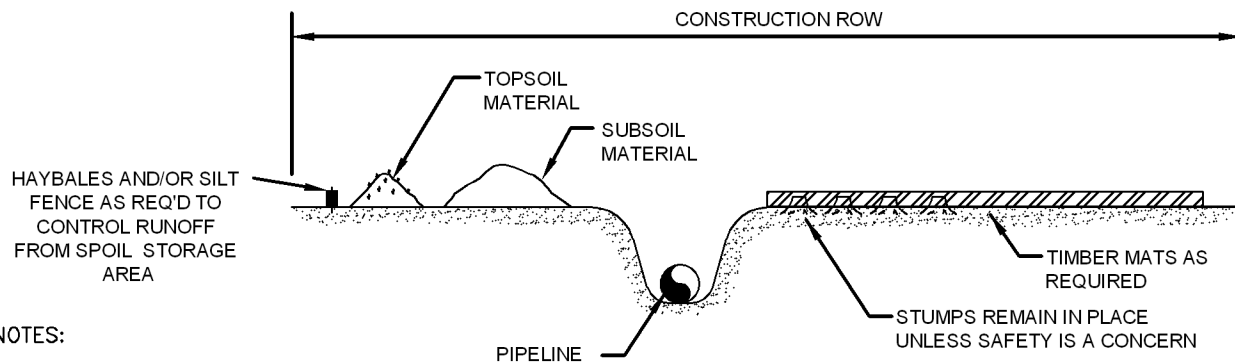
NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



CROSS-SECTION OF PIPELINE CONSTRUCTION RIGHT-OF-WAY CROSSING WETLAND AREAS

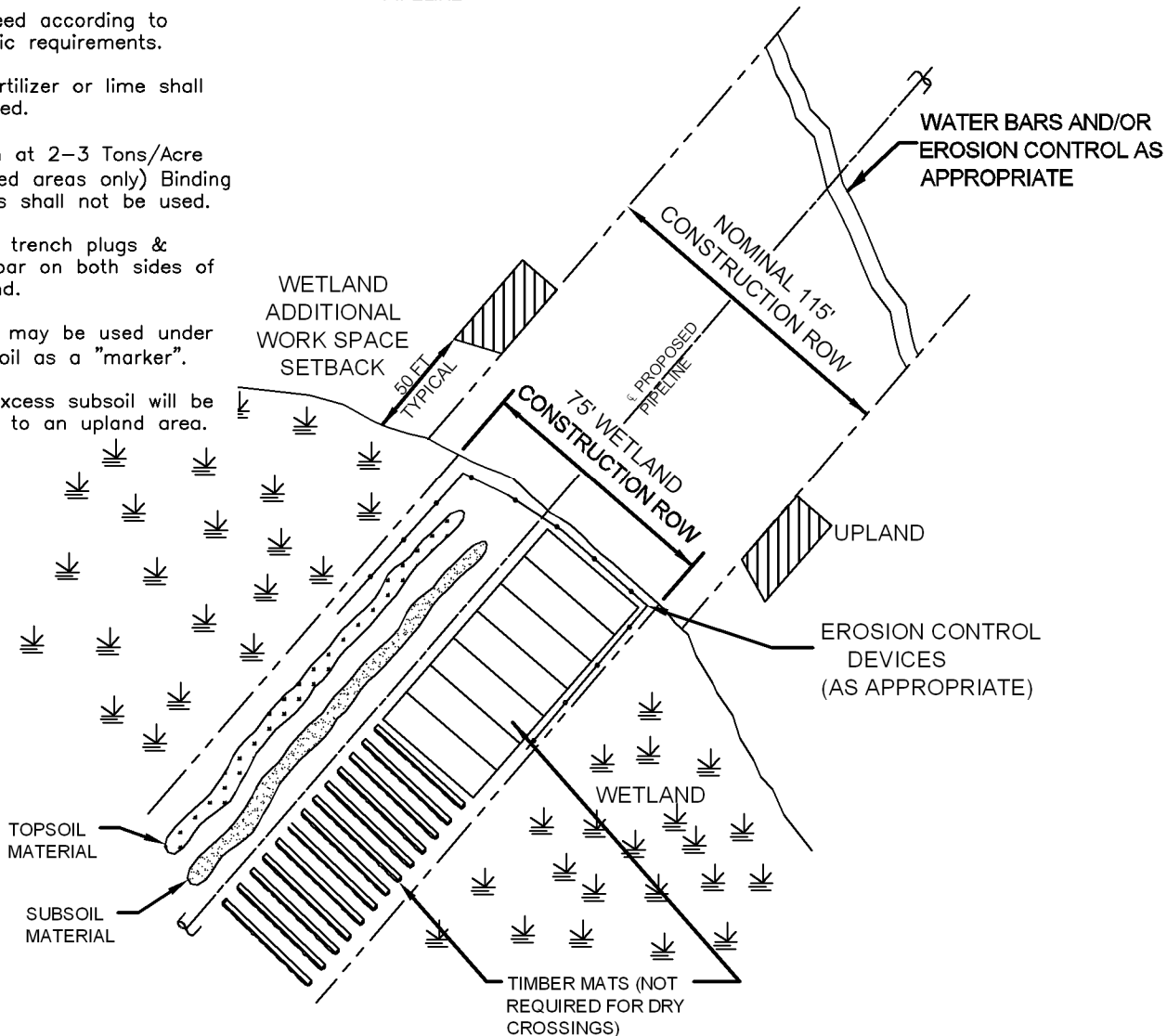
NOTES:

1. WETLANDS CONSTRUCTION RIGHT-OF-WAY WILL BE LIMITED TO 75 FEET WIDE ACROSS ANY WETLANDS UNLESS INCREASED OR DECREASED BY SPECIFIC CONSTRUCTION REQUIREMENTS. PERMANENT RIGHT-OF-WAY WILL BE 50 FEET WIDE CENTERED ON PIPE.
2. THE 115 FOOT NORMAL CONSTRUCTION RIGHT-OF-WAY EXTENDS TO THE EDGE OF THE WETLAND BOUNDARY. ADDITIONAL WIDTH CONSTRUCTION RIGHT-OF-WAY IF SPECIFIED BEGINS AND ENDS 50 FEET FROM EACH SIDE OF THE WETLAND BOUNDARY.
3. STOCKPILE TOPSOIL ON OUTSIDE EDGE OF RIGHT-OF-WAY IF GRADING OF RIGHT-OF-WAY IS REQUIRED OR REQUIRED BY THE ENVIRONMENTAL INSPECTOR. SNOW MAY ALSO BE PLACED IN THIS AREA.
4. STOCKPILE TOPSOIL ON OUTSIDE EDGE OF RIGHT-OF-WAY IF GRADING OF RIGHT-OF-WAY IS REQUIRED OR WITH PERMISSION OF ENVIRONMENTAL INSPECTOR.



NOTES:

1. Re-seed according to specific requirements.
2. No fertilizer or lime shall be used.
3. Mulch at 2-3 Tons/Acre (Seeded areas only) Binding Agents shall not be used.
4. Install trench plugs & waterbar on both sides of wetland.
5. Straw may be used under ditch spoil as a "marker".
6. Any excess subsoil will be removed to an upland area.



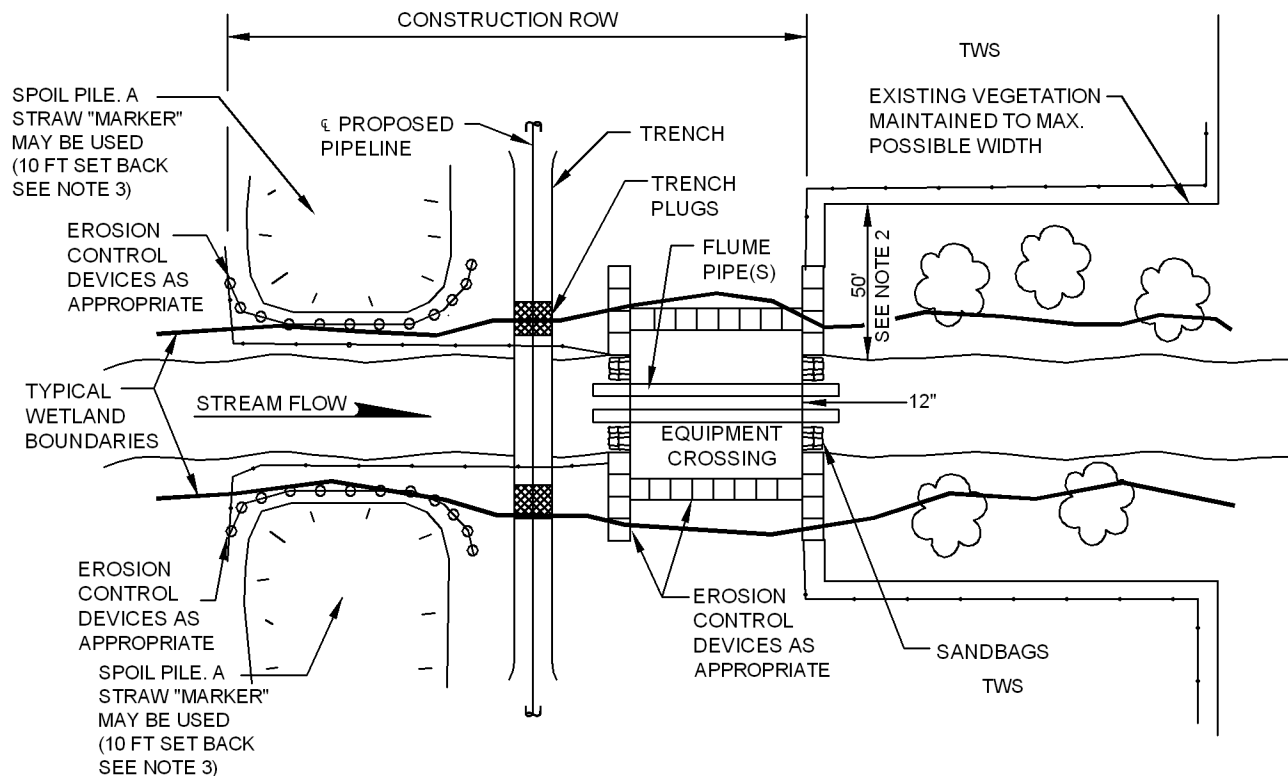
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RUBY PIPELINE LLC

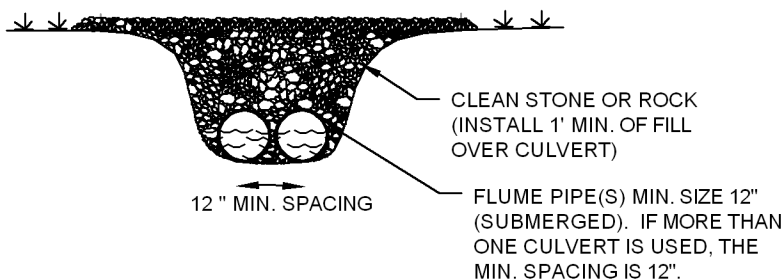
**TYPICAL
STANDARD WETLAND
CONSTRUCTION**

DWG. NO. **PLAN-9A**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



CROSS SECTION FOR EQUIPMENT CROSSING



NOTE:

1. PORTABLE BRIDGES OR MATS MAY BE USED FOR EQUIPMENT CROSSING IF CONTOURS ALLOW.
2. THE REQUIRED SETBACK FOR ADDITIONAL WIDTH WORK SPACE IS 50 FEET FROM TOP OF BANK UNLESS APPROVED OTHERWISE BY THE APPROPRIATE AGENCIES.
3. THE MINIMUM REQUIRED SETBACK FOR SPOIL PILE IS 10 FEET FROM THE TOP OF BANK.
4. EQUIPMENT BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
5. WEED-FREE STRAW BALES, SAND BAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY AT THE EDGE OF EQUIPMENT BRIDGE.
6. A LAYER OF STRAW MAY BE USED AS A "MARKER" BETWEEN SPOIL AND WETLAND SOIL.

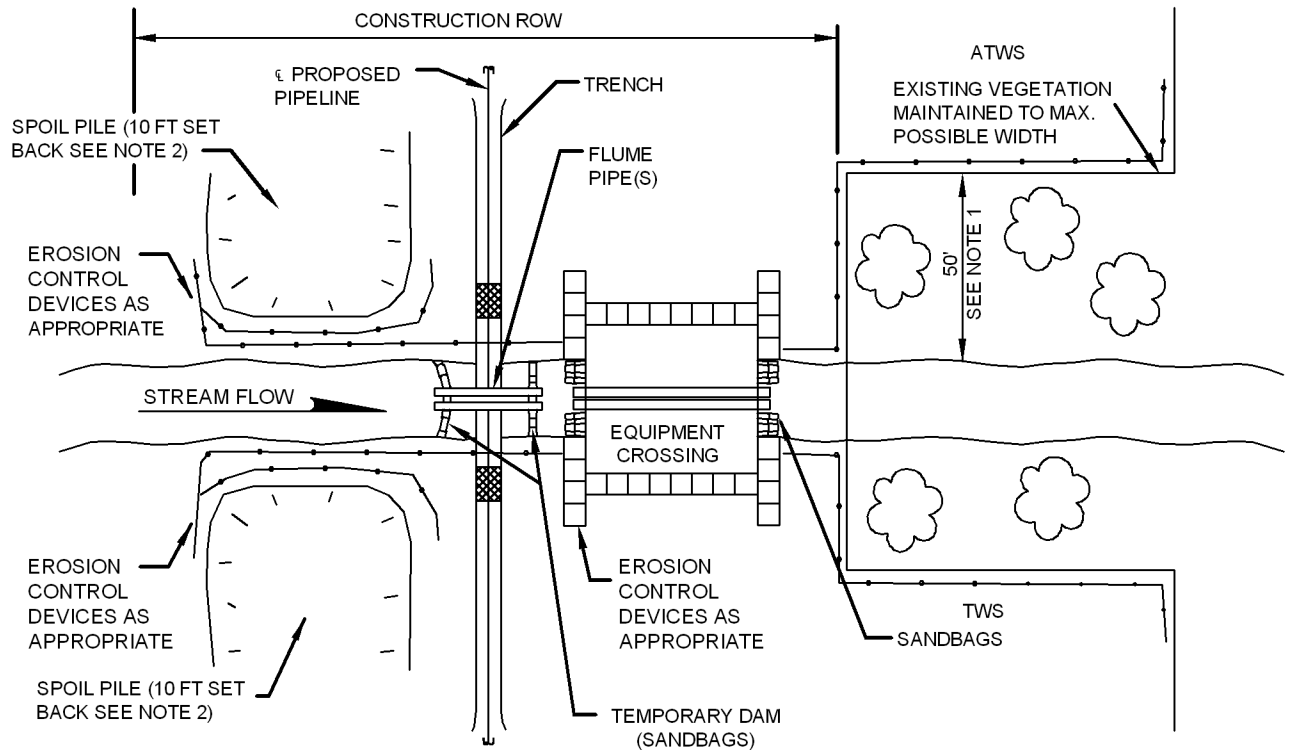
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RUBY PIPELINE LLC

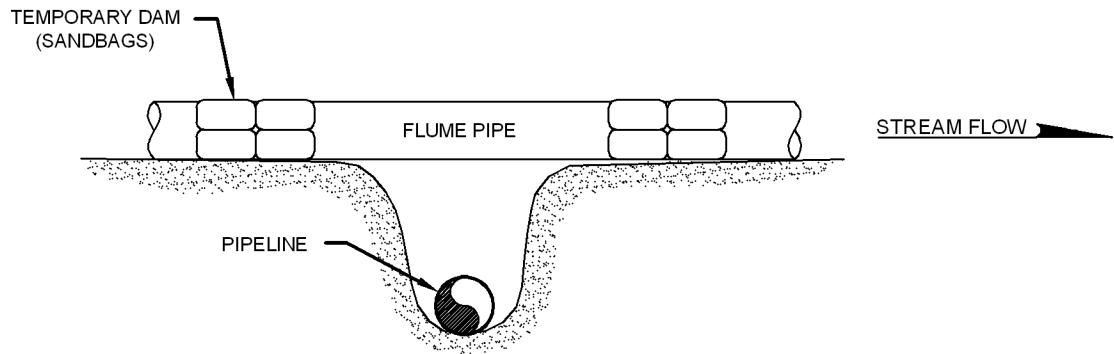
TYPICAL WET WATERBODY CROSSING (METHOD I)

DWG. NO. **PLAN-10**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



CROSS SECTION FOR TRENCH FLUMING



NOTE:

1. THE REQUIRED SET BACK FOR ADDITIONAL WIDTH WORK SPACE IS 50 FEET FROM TOP OF BANK UNLESS APPROVED OTHERWISE BY THE APPROPRIATE AGENCIES.
2. A 10' VEGETATION BUFFER WILL BE MAINTAINED BETWEEN THE BANK AND TWS.
3. THE MINIMUM REQUIRED SETBACK FOR SPOIL PILE IS 10 FEET FROM THE TOP OF BANK.
4. EQUIPMENT BRIDGE SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
5. WEED-FREE STRAW BALES, SAND BAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY AT THE EDGE OF EQUIPMENT BRIDGE.

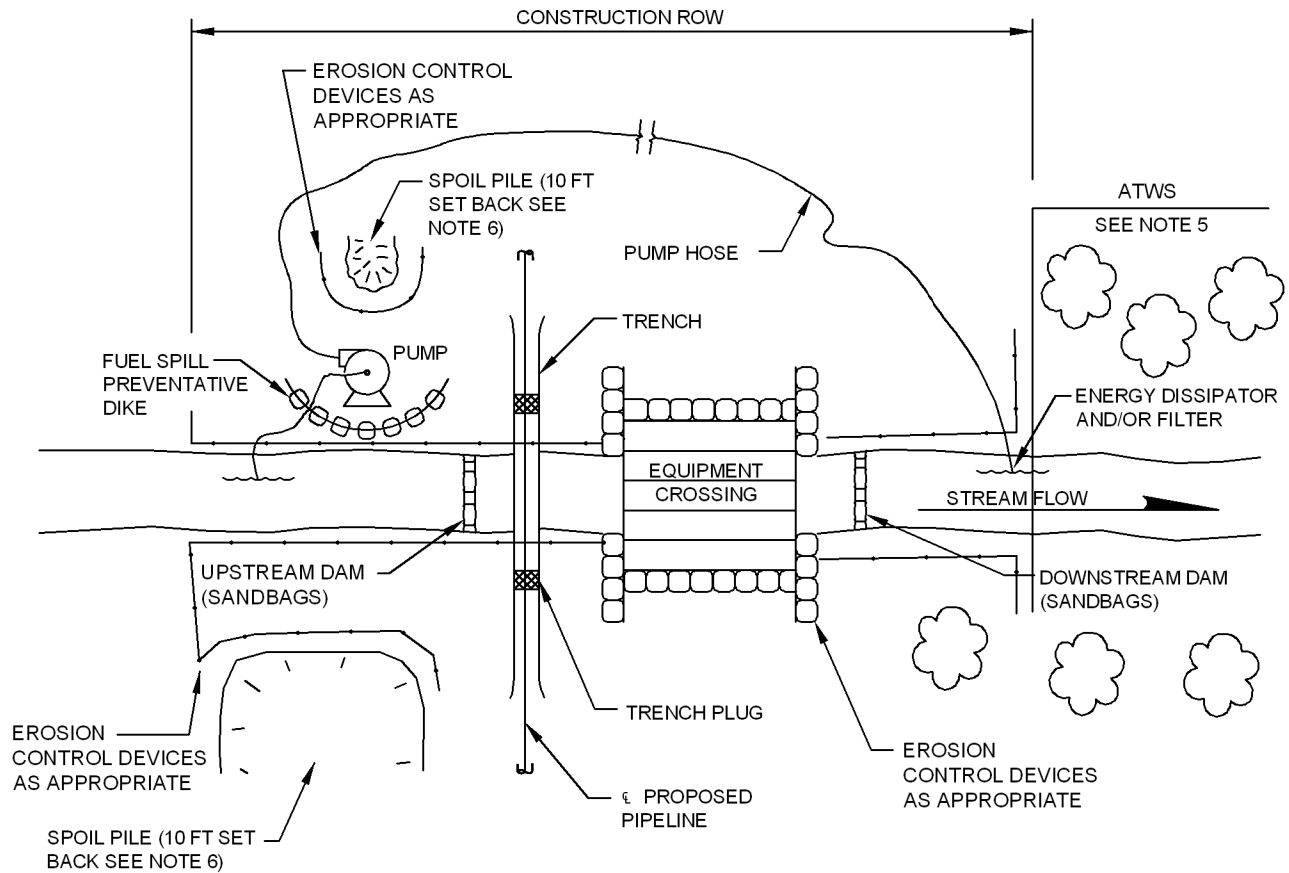
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PROJECT APPROVAL		
SURVEY DATE:		
SCALE:	NONE	
PROJECT ID:		
FILE NAME:		

RUBY PIPELINE LLC

**TYPICAL
DRY WATERBODY CROSSING
(METHOD 2A - FLUMED)**

DWG. NO. PLAN-11

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



PLAN
NOT TO SCALE

NOTES:

1. SET UP PUMP AND HOSE AS SHOWN, OR USE OTHER PRACTICAL ALTERNATIVES. PUMP SHOULD HAVE TWICE THE PUMPING CAPACITY OF ANTICIPATED FLOW.
2. CONTRACTOR TO ENSURE A SUFFICIENT NUMBER OF ACTIVE AND BACKUP PUMPS TO MAINTAIN THE CAPACITY OF THE STREAM FLOW AT ALL TIMES DURING INSTALLATION.
3. ALL INTAKE HOSES WILL BE SCREENED.
4. DISMANTLE DOWNSTREAM DAM, THEN UPSTREAM DAM. KEEP PUMP RUNNING TO MAINTAIN STREAM FLOW.
5. THE REQUIRED SET BACK FOR ADDITIONAL WIDTH WORK SPACE IS 50 FEET FROM TOP OF BANK UNLESS APPROVED OTHERWISE BY THE APPROPRIATE AGENCIES.
6. A 10' VEGETATION BUFFER WILL BE MAINTAINED BETWEEN THE BANK AND TWS.
7. THE MINIMUM REQUIRED SETBACK FOR SPOIL PILE IS 10 FEET FROM THE TOP OF BANK.
8. WEED-FREE STRAW BALES, SAND BAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY AT THE EDGE OF EQUIPMENT BRIDGE.

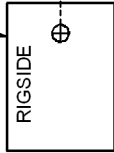
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PROJECT APPROVAL		
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PROJECT ID:		
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RUBY PIPELINE LLC	
TYPICAL DRY WATERBODY CROSSING (METHOD 2B, PUMP-AROUND)	
DWG. NO.	PLAN-12

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

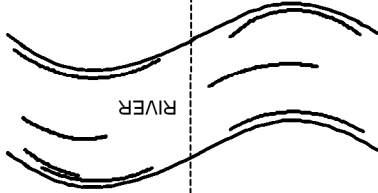
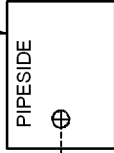
ENTER SIDE

SEE DETAIL "A"



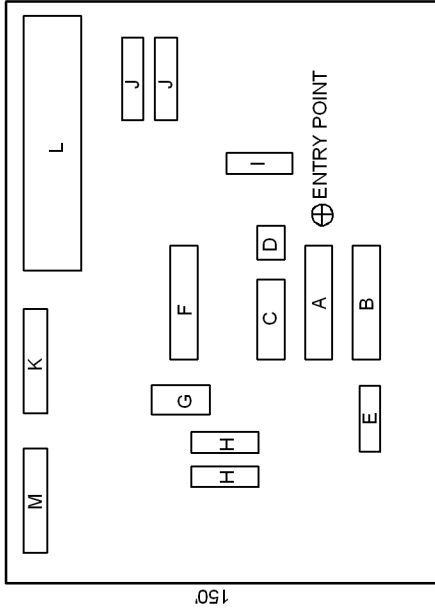
EXIT SIDE

SEE DETAIL "B"



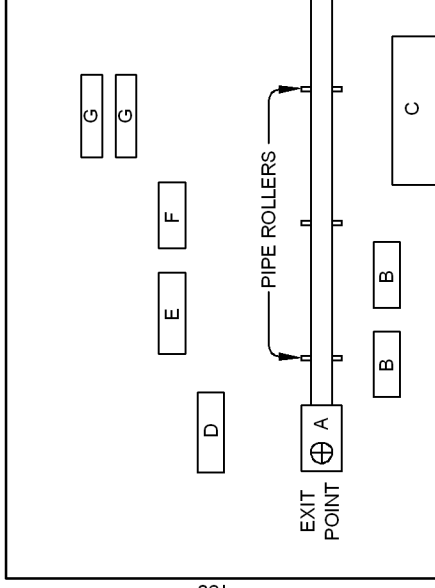
RIVER

- A = DRILL RIG
B = DRILLER'S CONSOLE, GENERATOR
C = DRILL PIPE
D = CRANE
E = PARTS VAN
F = MUD CLEANING UNIT
G = MUD MIXING TANK
H = MUD PUMPS
I = MUD PIT
J = FRAC TANKS
K = DRILLING MUD (PALLETES)
L = PARKING
M = OFFICE TRAILER



DETAIL "A"
N.T.S.

- A = EXIT PIT
B = LIFT EQUIPMENT
C = WELDING AREA
D = PIT
E = MUD CLEANING GENERATOR
F = FRAC TANKS



DETAIL "B"
N.T.S.

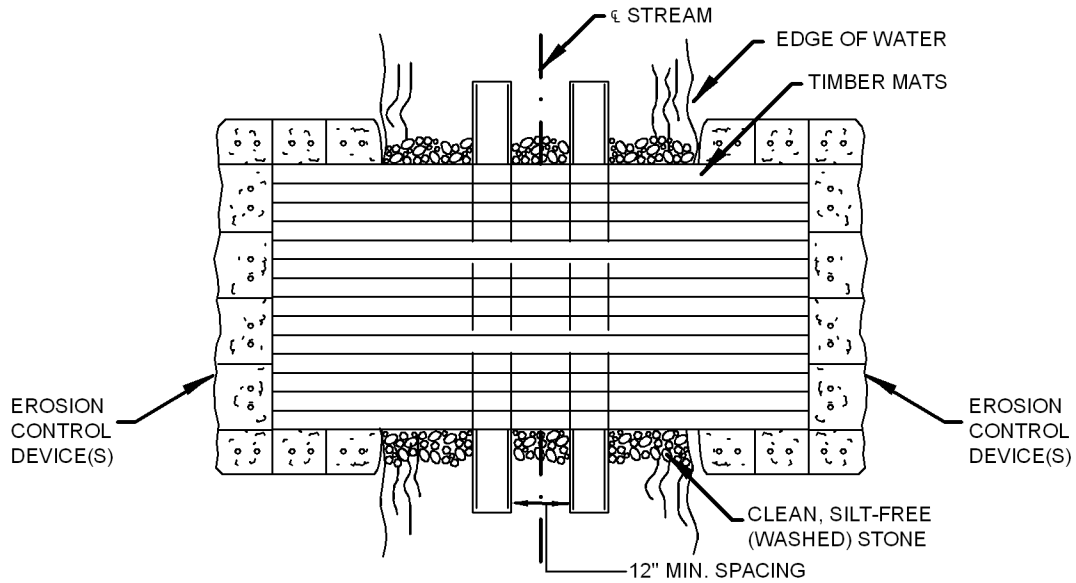
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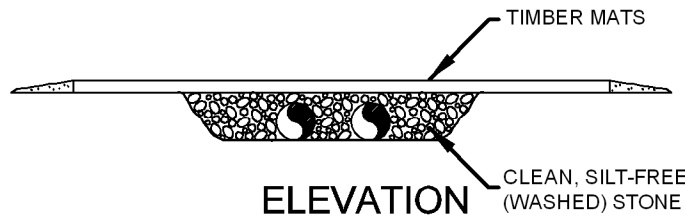
TYPICAL
WORKSPACE LAYOUT
DIRECTIONAL DRILL METHOD
METHOD 3

DATE	BY	DESCRIPTION	PROJ. ID	APPR.	DWG. NO.	REV.
REVISIONS					PLAN- 13	

TIMBER MAT AND ROCK/CULVERT BRIDGE



PLAN




ELEVATION

NOTES

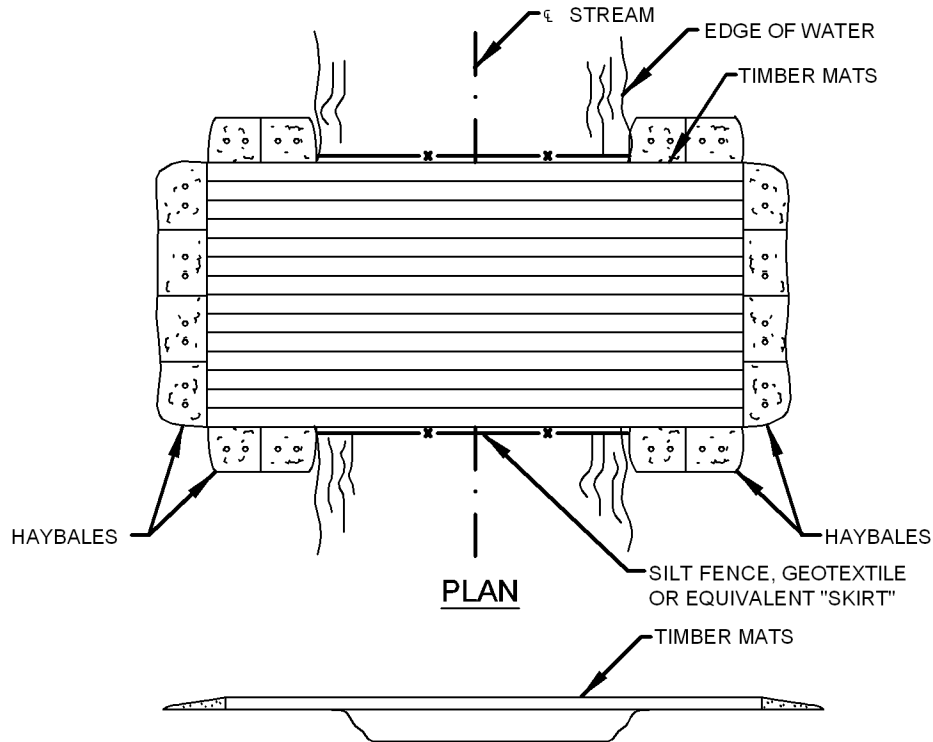
1. THIS TYPE OF BRIDGE IS GENERALLY USED FOR MEDIUM-SIZED STREAM CROSSINGS.
2. THE NUMBER AND SIZE OF THE FLUME PIPES WILL BE DESIGNED TO HANDLE MAXIMUM EXPECTED FLOW OF STREAM AT TIME OF CONSTRUCTION. MIN. SIZE CULVERT WILL BE 12".
3. CLEAN, SILT-FREE ROCK TO BE USED ONLY. INSTALL 12" MIN. OF FILL OVER CULVERT.
4. BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
5. SILT FENCE, WEED-FREE STRAW BALES, SANDBAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY.
6. STRAW BALES WILL BE PLACED AT THE EDGE OF EQUIPMENT BRIDGE AT THE END OF THE WORK DAY TO PREVENT EROSION BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.

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PROJECT APPROVAL		
SURVEY DATE:		
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PROJECT ID:		
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TYPICAL ROCK/CULVERT BRIDGE EQUIPMENT CROSSING	
DWG. NO.	PLAN-14

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

TIMBER MAT BRIDGE



NOTES

ELEVATION

1. THIS TYPE OF BRIDGE IS GENERALLY USED FOR SMALL STREAM CROSSINGS LESS THAN 20 FEET IN WIDTH IN COMBINATION WITH A PROPER STREAM BANK CONFIGURATION.
2. BRIDGE WILL BE TEMPORARILY REMOVED IF HIGH WATER RENDERS IT UNSAFE FOR CROSSING.
3. BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
4. SILT FENCE, WEED FREE STRAW BALES, SAND BAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY.
5. A "SKIRT" FORMED OF SILT FENCE, GEOTEXTILE FABRIC OR EQUIVALENT SHALL BE PLACED ON THE SIDES AND BOTTOM OF THE BRIDGE TO TRAP SEDIMENT AS NECESSARY.
6. INDIVIDUAL MATS SHALL BE ANCHORED AND BUTTED TIGHTLY TO MINIMIZE THE INTRODUCTION OF SEDIMENT TO THE WATERBODY.
7. STRAW BALES OR APPROPRIATE BARRIER WILL BE PLACED AT THE EDGE.

ENG. RECORD		DATE
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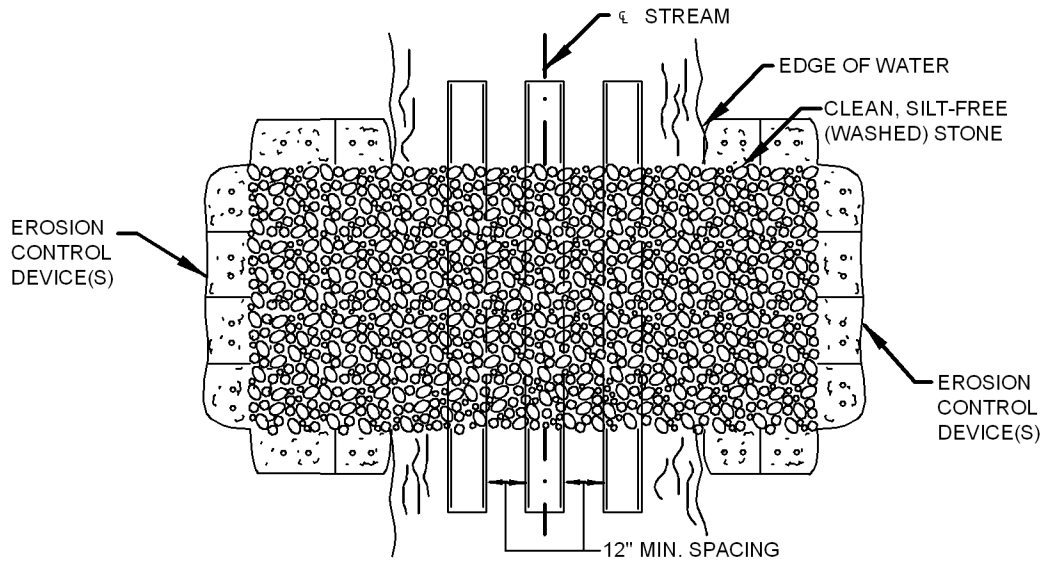
RUBY PIPELINE LLC

TYPICAL MAT BRIDGE EQUIPMENT CROSSING

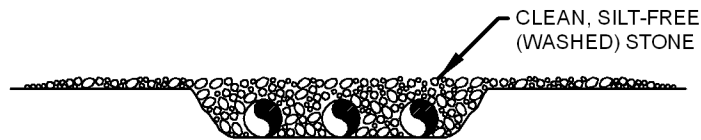
DWG. NO. **PLAN-15**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

ROCK/CULVERT BRIDGE



PLAN




ELEVATION

NOTES

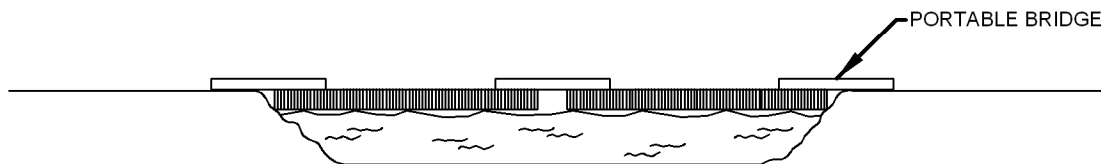
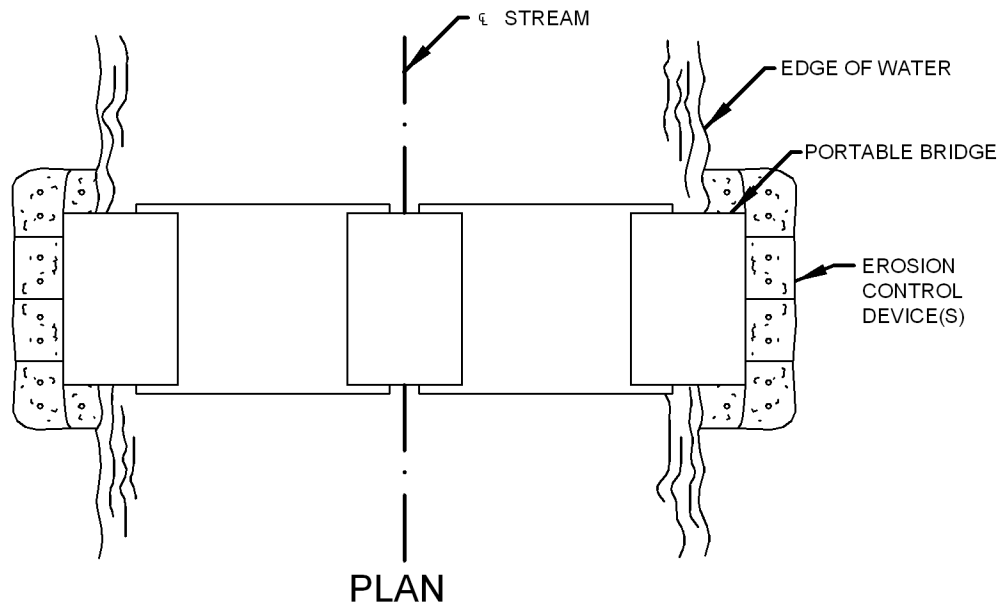
1. THIS TYPE OF BRIDGE IS USED ON MEDIUM TO LARGE STREAMS WITH POTENTIAL FOR SIGNIFICANT FLOW.
2. THE NUMBER AND SIZE OF FLUME PIPES WILL BE DESIGNED TO HANDLE THE MAXIMUM EXPECTED FLOW OF THE STREAM AT TIME OF CONSTRUCTION. MIN. SIZE CULVERT WILL BE 12".
3. CLEAN, SILT-FREE ROCK TO BE USED ONLY. INSTALL 1" MIN. OF FILL OVER CULVERT.
4. BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
5. SILT FENCE, WEED-FREE STRAW BALES, SANDBAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY.
6. ROCK MUST EXTEND 10' FROM TOP OF BANK ON BOTH SIDES OF WATERWAY.
7. STRAW BALES WILL BE PLACED AT THE EDGE OF EQUIPMENT BRIDGE AT THE END OF THE WORK DAY TO PREVENT EROSION BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.

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<h2 style="margin: 0;">TYPICAL ROCK & FLUME EQUIPMENT CROSSING</h2>	
DWG. NO.	<h1 style="margin: 0;">PLAN-16</h1>

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

PORTABLE BRIDGE



NOTES

1. THIS TYPE OF BRIDGE IS GENERALLY USED ON WIDE, DEEP CROSSINGS.
2. BRIDGE IS ANCHORED AND/OR TIED OFF TO ANCHOR BLOCKS FOR STABILITY.
3. BRIDGE TO REMAIN IN PLACE UNTIL THE COMPLETION OF FINAL RESTORATION.
4. SILT FENCE, WEED-FREE STRAW BALES, SANDBAGS, DRIVABLE BERMS OR OTHER APPROPRIATE EROSION CONTROL MAY BE USED INTERCHANGEABLY.
5. STRAW BALES WILL BE PLACED AT THE EDGE OF EQUIPMENT BRIDGE AT THE END OF THE WORK DAY TO PREVENT EROSION BUT WILL BE REMOVED DURING CONSTRUCTION ACTIVITY.

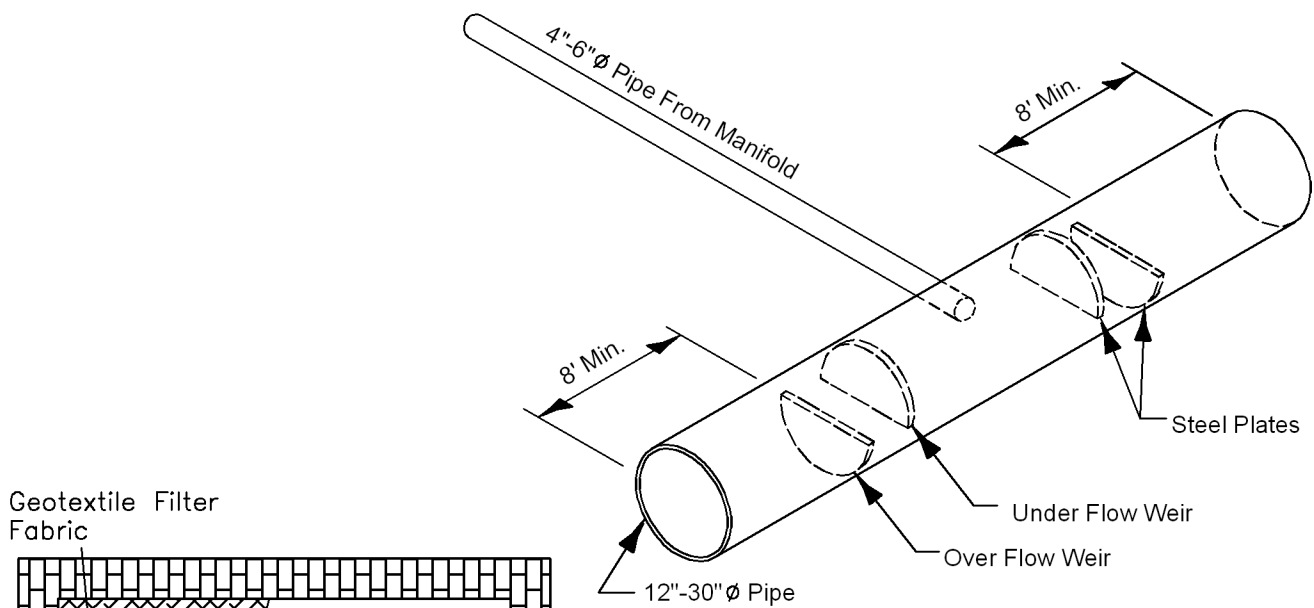
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PROJECT APPROVAL		
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RUBY PIPELINE LLC

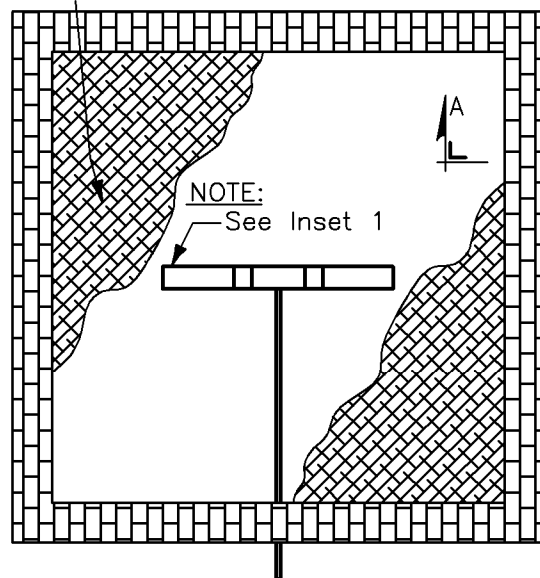
TYPICAL PORTABLE BRIDGE EQUIPMENT CROSSING

DWG. NO. **PLAN-17**

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REVISIONS					

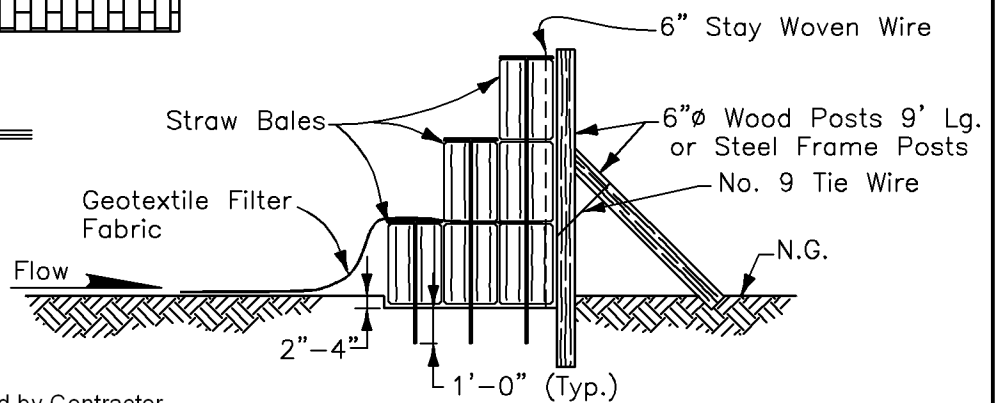


Geotextile Filter Fabric



DETAIL 1

Scale: NONE



SECTION "A-A"

Scale: NONE

NOTE

1. Energy Dissipator to be anchored by Contractor.
2. Typical Energy Dissipator must be used in conjunction w/filter (AS APPROPRIATE)
3. Must be located in an upland area.
4. Sediment must be removed when accumulations reach 1/2 the height of the filters.

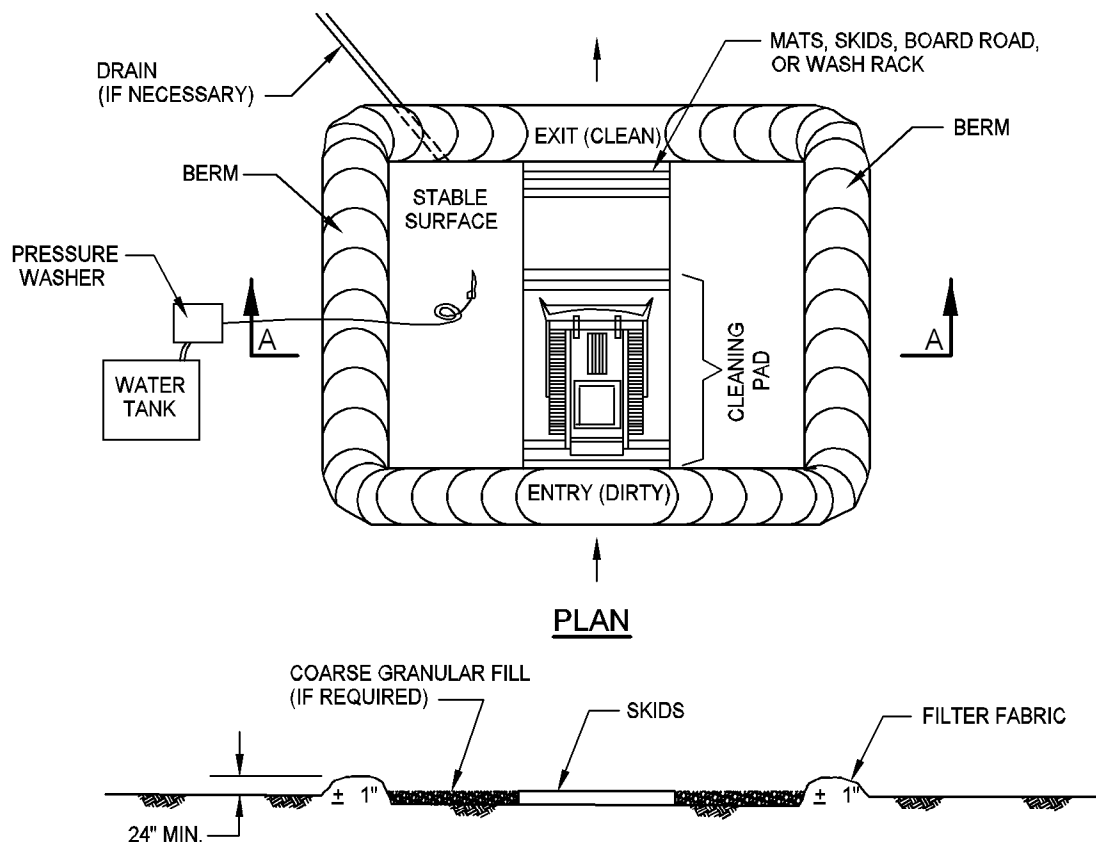
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FILE NAME:		

RUBY PIPELINE LLC

TYPICAL ENERGY DISSIPATOR

DWG. NO. **PLAN-18**

NO	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					



SECTION A-A

ALL EQUIPMENT SHALL ARRIVE TO THE PROJECT CLEAN OR BE WASHED PRIOR TO MOBILIZATION TO THE ROW.

NOTES:

1. ALL EQUIPMENT AND VEHICLES SHALL BE REQUIRED TO BE WASHED AT WASH STATIONS AS SHOWN ON THE CONSTRUCTION DRAWINGS OR AS DIRECTED IN THE NOXIOUS WEED MANAGEMENT PLAN. WASH STATIONS SHALL BE CONSTRUCTED BY THE CONTRACTOR. WASHINGS SHALL BE CARRIED OUT UNDER THE SUPERVISION AND TO THE SATISFACTION OF THE COMPANY REPRESENTATIVE.
2. TOP SOIL TO BE SEGREGATED AND STORED SEPARATELY.
3. WASH WATER USED FOR CLEANING SHALL NOT BE ALLOWED TO ENTER ANY WATERBODY, WETLAND, OR IRRIGATION CANAL/DITCH. ANY SOILS CONTAMINATED BY PETROLEUM-BASED OR OTHER UNDESIRABLE MATERIALS FROM WASH STATIONS SHALL BE REMOVED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS.
4. SIZE OF STATION TO BE ADEQUATE TO ACCOMMODATE MAXIMUM SIZE OF EQUIPMENT AND REQUIRED FOR WORK.
5. EQUIPMENT TO ENTER A "DIRTY END" AND EXIT A "CLEAN END".
6. STABLE DRAINAGE FROM SITE (IF NECESSARY) TO BE PROVIDED. DO NOT DISCHARGE TO A STREAM OR WETLAND.
7. DISPOSAL OF GRAVEL FILL (IF REQUIRED) AND FILTER FABRIC IS TO BE APPROVED BY ENVIRONMENTAL INSPECTOR.
8. WASH STATIONS ARE TO BE EQUIPPED WITH SKID PADS OR WASH RACKS TO PREVENT SOIL FROM BEING CARRIED ON TRACKS OR TIRES AS EQUIPMENT AND VEHICLES EXIT THE WASH STATION.

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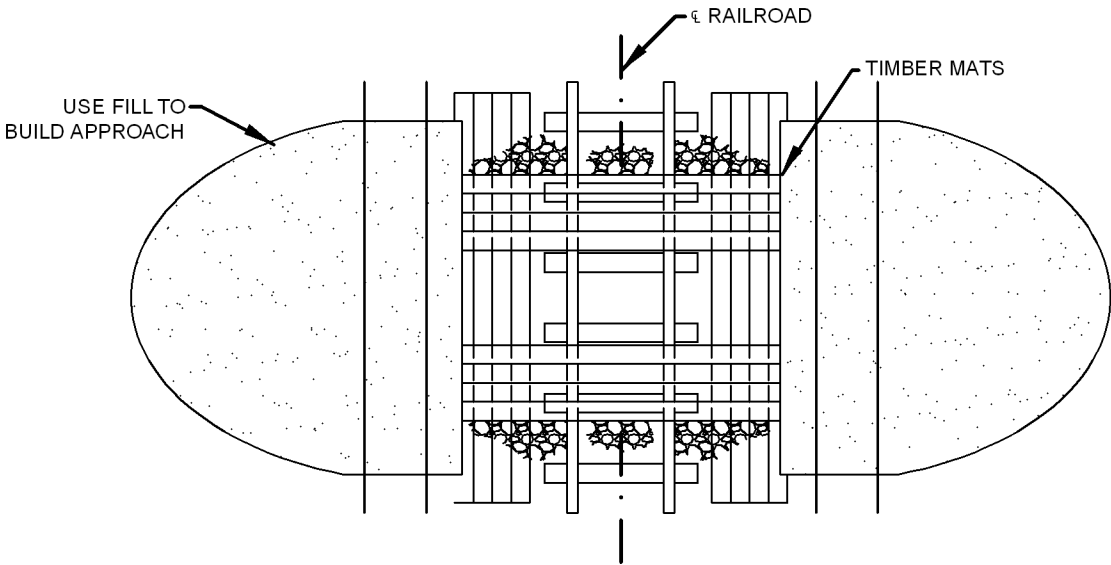
RUBY PIPELINE LLC

TYPICAL EQUIPMENT CLEANING STATION

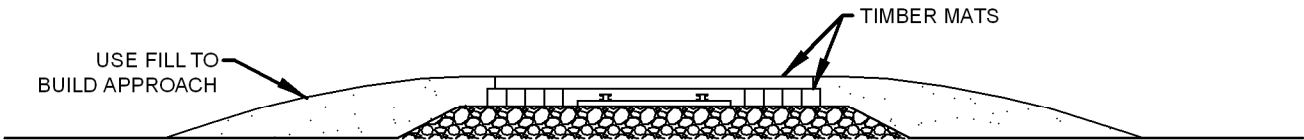
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REVISIONS					

DWG. NO. **PLAN-19**

TIMBER MAT BRIDGE



PLAN



ELEVATION

NOTES

- 1. THIS TYPE OF BRIDGE IS GENERALLY USED FOR ACCESS ACROSS RAILROAD TRACKS
- 2. CONTRACTOR WILL USE DIGGING MATS FOR THE CROSSING. THESE ARE NORMALLY 4' WIDE BY 16' LONG AND 8" TO 10" THICK.

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PROJECT APPROVAL							
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SCALE: NTS							
PROJECT ID:							
FILE NAME:							

RUBY

PIPELINE LLC

TYPICAL
RAILROAD
EQUIPMENT CROSSING

NO.	DATE	BY	DESCRIPTION	PROJ. ID	APPR.
REVISIONS					

DWG. NO. **PLAN-20**